A DEMOGRAPHIC MODEL OF SIMCOE COUNTY, ONTARIO FOR THE PURPOSES OF PROJECTING DEMAND FOR POST-SECONDARY EDUCATION

Prepared for

The Simcoe County Joint Post-Secondary
Planning Committee

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 revised and updated
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Note

This study was performed at York University under a contract between the Simcoe County Joint Post-Secondary Planning Committee and the Government of Ontario. Funding was provided by the Ministry of Treasury, Economics, and Intergovernmental Affairs; and administered by the Ministry of Colleges and Universities. Much appreciated advice, assistance, and information were supplied by a number of agencies, listed in the Appendices. Special thanks are due to Margaret R. Stephenson, for computer programming and research assistance; and to Kathy Turner, for very capable typing. Nevertheless, all views and opinions expressed herein are those of the author and do not necessarily reflect those of York University, the Planning Committee, nor any governmental agency.

1. Introduction

This study had three basic aims. Its first was to collect demographic data about constituent areas within Simcoe County, appropriate to a methodology for projecting population changes into the future under various assumptions. The second was to collect data about the impact of those populations on full-time enrolment in Ontario post-secondary institutions, so that population projections could be interpreted in terms of future enrolments. Thirdly, a computer program was to be developed for use by those interested in exploring possible scenarios of demographic change and program participation; and the program was to be adaptable for use in forecasting demand for school enrolments and others social services.

We have spent about sixty percent of the money budgeted and have realized about seventy percent of the objectives. Devising the computer programs was easy compared to the difficulty of collecting reliable data needed to make the projections 'realistic'. We had hoped to obtain much information locally in the County but did not find it. Almost all data was found in Toronto or Ottawa; and under pressure of time we have settled for data which is adequate but not in the form or detail we would have wished. However, as time goes on the desired formats may become available and the programs can be appropriately updated.

The differences between population projections produced in this study and those already available from provincial and federal authorities are, first, that

the level is extended from county level to the level of township, town, village and city within the county; and second, that annual net migration is distributed to each such census subdivision according to its stage of development at the start of the projection. The population is calculated by single year of age and by sex for each census subdivision. The user may specify any desired level of net migration for the county in any year from 1977 to 2016. The distribution by age and sex of shares of county net migration is accomplished within the model. Thus each geographical unit generates its own projection based on its individual characteristics, and the county projection is the sum of the components. The user may adjust area characteristics as desired. A limited (but expandable) facility is built in to utilize geographic co-ordinates for mappings and other calculations based on spatial distribution of population.

We would have preferred to have incorporated a 'feedback' into the computation, by which net migration and fertility rates might be made responsive to land use pressures and perhaps other factors. It was decided to leave this for later development.

Projections of post-secondary enrolment are produced by applying age- and sex-dependent participation rates to populations. In the present version, participation rates are assumed constant and so the variation in enrolment is strictly determined by changes in age and sex distribution within the population. Variations in participation rates can be studied independently for any given population projection; and by appropriately

defining participation data for other services (e.g. elementary and secondary schools, health services, etc.), the impact of population on such services can be projected.

This study report contains a summary of statistical data collected, a description of the computational method, program listings, and output from a sample run. Additional reference materials, including contents of 1971 Census Enumeration Records in printed and tape form are available from the author.

This report was prepared in draft in September 1978. In the meantime, figures for 1978 Fall entry to universities and CAATs have become available, and the tables and figures have been updated where possible.

2. Population Model

It is in the nature of statistical estimates that the larger the aggregate being estimated, the smaller the probable percentage error. Consequently demographers feel the ground becoming increasingly slippery as they move population estimates down from federal to provincial level; and they generally stop at county level. On the other hand, educational and municipal planners are forced to work from neighbourhood level upward; and the two directions do not necessarily meet.

The model in this study is aimed at bringing the two directions closer together: populations are projected at the level of census subdivision and aggregated to county level where the result may be compared to projections produced on a federal and provincial level. At the same time county-wide average figures for fertility rates (births per 1,000 females by age per year) and mortality rates (deaths per 1,000 persons by age and sex per year) are used for all subdivisions; and total annual net migration is specified at the county level. The result is necessarily a compromise - migration within the county is ignored, as well as any local variations in fertility and mortality. Most important, the age and sex distribution of net migration, and the share of county net migration going to each subdivision, is allocated by a rule whose basis is empirical but whose application may seem arbitrary. We would argue that the result is more useful than anything yet available; but not that it is perfect. More important, the computations are mechanized

so that those who wish may explore the consequences of different sets of assumptions.

2.1 Fertility and Mortality

In principle, population models are simple applications of the law of conservation of mass: the number of people at time T is the number at time 0, plus births and in-migration minus deaths and out-migration in the interval 0-T. One can observe, with Malthus, that the number of births and of deaths is proportional to the existing population; and hence derive 'fertility rates' and 'mortality rates' which are helpful in estimating numbers of births and deaths in future intervals of the same length. Given a starting population, and birth, death, and net migration rates over time, the calculation is straightforward.

In practice the dependence of fertility and mortality on age and sex, and their variation in time, are too important to ignore; and time intervals greater than one year introduce intolerable inaccuracies. The demographer is constantly struggling to ensure that data collected over time is consistent and accurate.

Migration across county boundaries is not subject to record-keeping as are births and deaths; and in practice net migration is derived from the difference between actual and natural increase, after the actual increase is known. Census counts of population are made only every five years, and it follows that all population figures after one census are estimates until

the next one is taken and interpolations performed. (This can lead to much confusion: published 'historical' population data for non-census years should be viewed with scepticism.)

The fuzziness of migration data means that fertility and mortality rates for non-census years are also suspect, and consequently recent 'trends' in such figures may be misleading.

Nevertheless, to perform a calculation one must begin with numbers. Data on births and deaths in Simcoe County are given in Tables 2-1 and 2-2, respectively. (Figures for 1971 include the Townships of Rama and Mara.) Table 2-3 gives census population figures for Simcoe County by age and sex. To derive fertility and mortality rates births and deaths were divided by the same-year population of appropriate age and sex.

Because so much has been written about changes in fertility and birth rates in Ontario, a brief comment is appropriate. In figure 2-1, the fertility rates for Simcoe County in 1971 are compared with the fertility rates for Ontario in 1976 and the figures used in population projections 0 and 1 included here. There was a drop in Simcoe County in age ranges from 1971 to 1976, but 1976 was somewhat above the level for Ontario in 1976. Figures for 'Ontario 1975' were used in the computer program because they were given for smaller age groups.

The drop in birth rates since about 1960 has been extensively discussed by demographers.[1] The difficulty with these discussions is that they usually assume a leveling off two to five years in the future after the date of the report, a horizon which continually recedes. A convincing basis for choosing likely values is absent; and in any case, net migration is expected to be the dominant factor and major source of uncertainty in Simcoe County's future.

2.2 Net Migration

Population projections were among the earliest examples of the uses of calculus: integration of a process where the rate of growth is proportional to the existing population yields an exponentially rising population. Ecologists testing this Malthusian simplification discovered that for many populations, growth departs from the exponential, becomes linear for a time, and then bends over to become asymptotic to an upper limit determined mainly by food supply. The curve traced out is the classic 'S' curve, or logistic curve. Apparently such populations sense an upper limit of numbers some time before they actually reach it.*

* The report 'Limits to Growth' by the Club of Rome might be regarded as such a warning to humans, by suggesting that if current global population and resource comsumption growth is not curbed, the inevitable and rather early result will be penetration of the upper limit, followed by catastrophic population collapse due to famine and/or resource exhaustion and/or toxic human and industrial waste accumulation.

The long life span and generation time of humans slows down the response of population numbers to environmental stimuli. A 'zero net migration' calculation for Simcoe County shows that population would continue to coast upwards, reaching a maximum about 2011 and then beginning to decline. If the gross reproductive rate (number of children born per female during her lifetime) is at or above the replacement value (about 2), there will exist some age distribution where deaths per unit time continuously equals births, and population would stabilize.

Nevertheless, it has been suggested[2] that the 'S' curve is a reasonably good approximation to the population growth in a given area, because migration is sensitive to upper limits on population density, and fairly quickly responsive. The same authors suggested that the age and sex distribution of net migration are characteristic of the 'location' of the area on the S-curve, and produced empirical graphs (see appendix IV figures 1-5) corresponding to five segments of the S-curve. The assignment of an area in Simcoe County to a specific segment required two counts for the area plus a figure for its upper limit capacity, available from the Simcoe-Georgian Task Force study. The counts were census populations of 1971 and 1976, and the areas were thereby defined as census subdivisions (see tables 5A and 5B).

Computation using assumed future migration scenarios requires assigning a share of total county net migration

to each census subdivision. The procedure followed was to calculate the net migration received by each area and the county in the five-year intercensal period 1971-1976.

The model therefore assumes that each area's age and sex distribution and share of net migration does not change during the time of the projection. It also assumes that area boundaries remain constant. These assumptions make the model cheap and workable if not wholly satisfactory. They become less realistic the longer the horizon is extended. Both 'The Limits to Growth' and 'Mankind at the Turning Point' provided elaborate systems describing the influence of social, economic, and natural factors on fertility, mortality, and net migration; but so far such models have not been developed for areas as small as a county despite some efforts in that direction.

LIVE BIRTHS BY AGE OF MOTHER AND SEX OF CHILD

SIMCOE COUNTY

Table 2-1

AGE OF MOTHER	1971			1972 *			1973 *			1974			1975			1976		
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
Under 15	1	1	2	1	2	3	---	1	1	1	1	2				3	0	3
15 - 19	199	178	377	264	200	464	219	207	426	223	207	430			399	187	198	385
20 - 24	531	488	1,019	520	509	1,029	500	468	968	573	539	1,112			1,113	539	589	1,128
25 - 29	471	429	900	491	467	958	532	496	1,028	589	541	1,130			1,244	607	589	1,196
30 - 34	195	175	370	178	173	351	186	172	358	191	236	427			404	217	232	449
35 - 39	68	74	142	72	60	132	65	45	110	63	44	107			99	57	56	113
40 - 44	16	13	29	21	19	40	19	8	27	10	15	25				7	8	15
45 - 49	1	2	3	---	---	---	---	1	1						16			
50 +	---	---	---	---	---	---	---	---	---	0	1	1				1	0	1
Not Stated	---	---	---	2	1	3	---	---	---	---	---	---			---	---	---	---
Total	1,482	1,360	2,842	1,549	1,431	2,980	1,521	1,398	2,919	1,650	1,584	3,234			3,275	1,616	1,672	3,290

* not including Rama & Mara

DEATHS BY AGE AND SEX

SIMCOE COUNTY

AGE	SEX	1971	1972	1973	1974	1975	1976
< 1	M	28	27	28	18	30	24
	F	19	23	11	23	24	18
	T	47	50	39	41	54	42
1 - 4	M	2	3	7	4	0	3
	F	4	4	8	0	1	1
	T	6	7	15	4	1	4
5 - 9	M	4	9	5	5	6	6
	F	3	1	1	1	2	2
	T	7	10	6	6	8	8
10 - 14	M	6	3	6	6	7	4
	F	2	2	2	3	2	0
	T	8	5	8	9	9	4
15 - 19	M	13	15	27	17	21	20
	F	7	4	9	4	7	6
	T	20	19	36	21	28	26
20 - 24	M	22	17	16	19	17	12
	F	6	7	8	4	6	3
	T	28	24	24	23	23	15
25 - 29	M	7	13	10	11	16	13
	F	2	10	6	4	3	8
	T	9	23	16	15	19	21
30 - 34	M	12	6	14	9	13	9
	F	4	2	4	5	2	6
	T	16	8	18	14	15	15

Source: Tables produced for the Registrar-General of Ontario by Statistics Canada

DEATHS BY AGE AND SEX

SIMCOE COUNTY

AGE	SEX	1971	1972	1973	1974	1975	1976
35 - 39	M	13	14	11	14	17	13
	F	8	6	10	10	4	5
	T	21	20	21	24	21	18
40 -44	M	15	21	26	20	18	17
	F	11	9	8	13	10	8
	T	26	30	34	33	28	25
45 - 49	M	28	29	29	34	33	38
	F	15	13	15	22	20	15
	T	43	42	44	56	53	53
50 - 54	M	45	37	53	48	55	44
	F	26	20	23	22	21	27
	T	71	57	76	70	76	71
55 - 59	M	68	63	55	72	83	68
	F	28	39	44	28	40	32
	T	96	102	99	100	123	100
60 - 64	M	84	74	99	93	90	116
	F	41	53	42	47	47	61
	T	125	127	141	140	137	177
65 - 69	M	107	133	127	109	128	106
	F	57	55	56	56	74	63
	T	164	188	183	165	202	169
70 - 74	M	101	134	115	130	144	162
	F	65	57	59	71	91	81
	T	166	191	174	201	235	243

DEATHS BY AGE AND SEX

SIMCOE COUNTY

AGE	SEX	1971	1972	1973	1974	1975	1976
75 - 79	M	96	108	124	120	121	125
	F	79	113	99	90	97	91
	T	175	221	223	210	218	216
80 - 84	M	91	100	87	100	110	92
	F	99	97	127	102	95	132
	T	190	197	214	202	205	224
85 +	M	95	111	96	128	110	101
	F	145	160	153	178	171	184
	T	240	271	249	306	281	285
Not Stated	M	0	0	0	0	0	0
	F	0	0	0	0	0	0
	T	0	0	0	0	0	0
TOTAL	M	837	917	935	957	1,019	973
	F	621	675	685	683	717	743
	T	1,458	1,592	1,620	1,640	1,736	1,716

Table 2-3

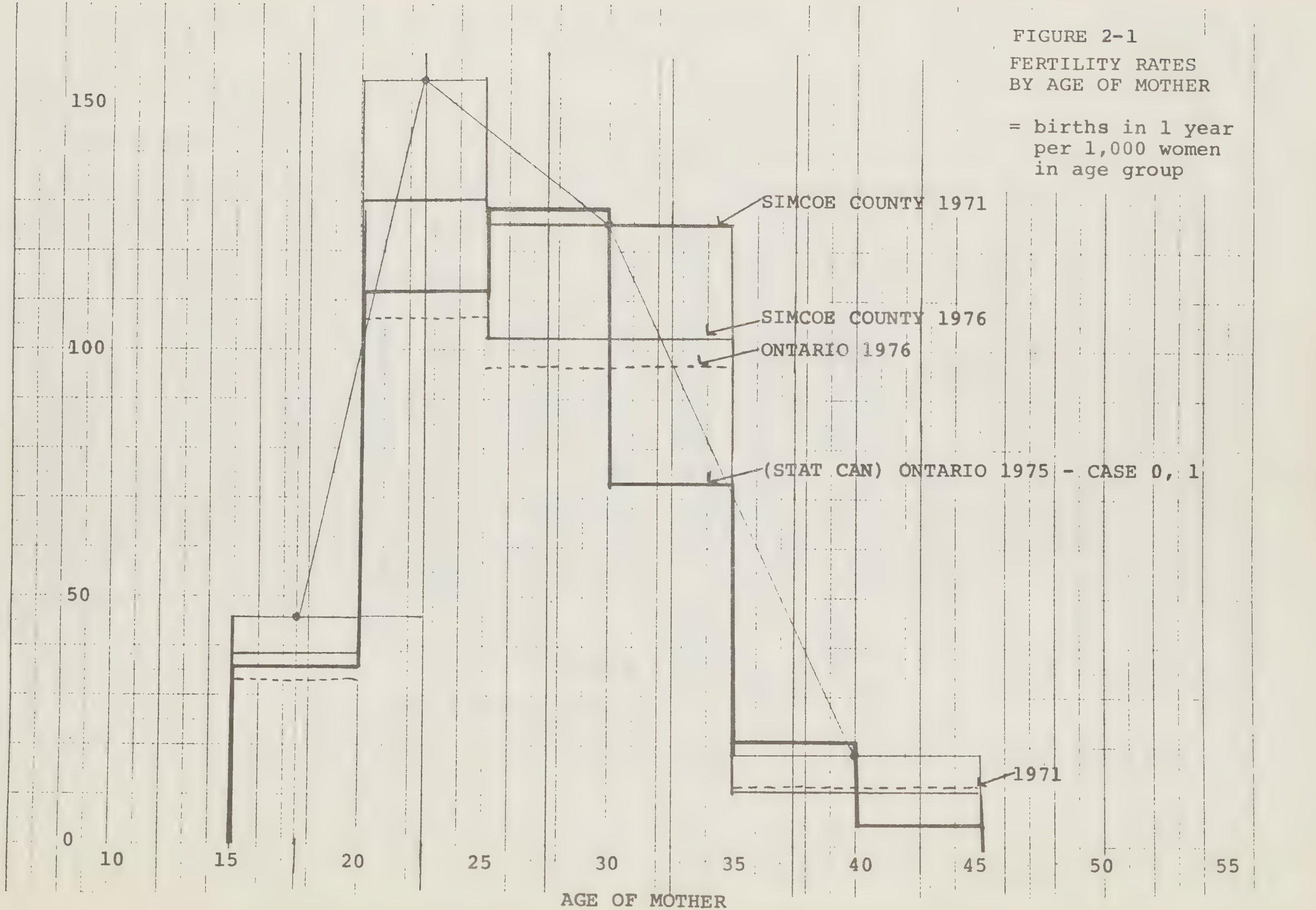
CENSUS POPULATIONS BY AGE GROUP AND SEX
SIMCOE COUNTY

AGE GROUP	SIMCOE COUNTY						ONTARIO					
	1971			1976			1971			1976		
	M	F	T	M	F	T	M	F	T	M	F	
0 - 4	7,155	6,910	14,065	8,530	8,115	16,643	325,300	311,000	637,300	311,730	295,475	607,205
5 - 9	9,435	8,805	18,240	8,945	8,515	17,460	401,200	382,300	783,500	341,965	325,850	667,815
10 - 14	10,020	9,385	19,405	10,955	10,140	21,095	403,700	384,000	787,700	409,280	389,475	798,755
15 - 19	9,450	8,500	17,960	11,470	10,125	21,695	362,200	351,200	713,400	412,665	395,325	807,990
20 - 24	7,305	6,675	13,980	8,905	8,680	17,585	334,800	339,300	674,100	368,270	376,095	744,365
25 - 34	10,770	10,400	21,170	16,370	15,965	32,335	528,700	516,800	1,045,500	652,015	650,255	1,275,270
35 - 44	9,920	9,330	19,250	11,780	10,990	22,770	491,300	942,600	488,045	476,495	964,540	964,540
45 - 54	9,045	9,495	18,540	10,470	10,590	21,060	421,300	429,600	850,900	466,090	470,830	936,920
55 - 54	7,560	7,835	15,395	8,880	9,810	18,690	306,500	317,100	623,600	336,490	359,190	695,680
65 - 69	3,060	3,210	6,270	3,885	4,040	7,895	106,100	121,700	227,800	120,540	140,390	260,930
70+	4,865	6,440	11,305	5,785	7,730	13,515	168,800	247,900	416,700	169,780	288,215	477,995
TOTAL	88,595	86,985	175,580	105,985	104,705	210,690	3,840,900	3,862,200	7,703,100	4,096,865	4,167,600	8,264,465

FIGURE 2-1

FERTILITY RATES
BY AGE OF MOTHER

= births in 1 year
per 1,000 women
in age group



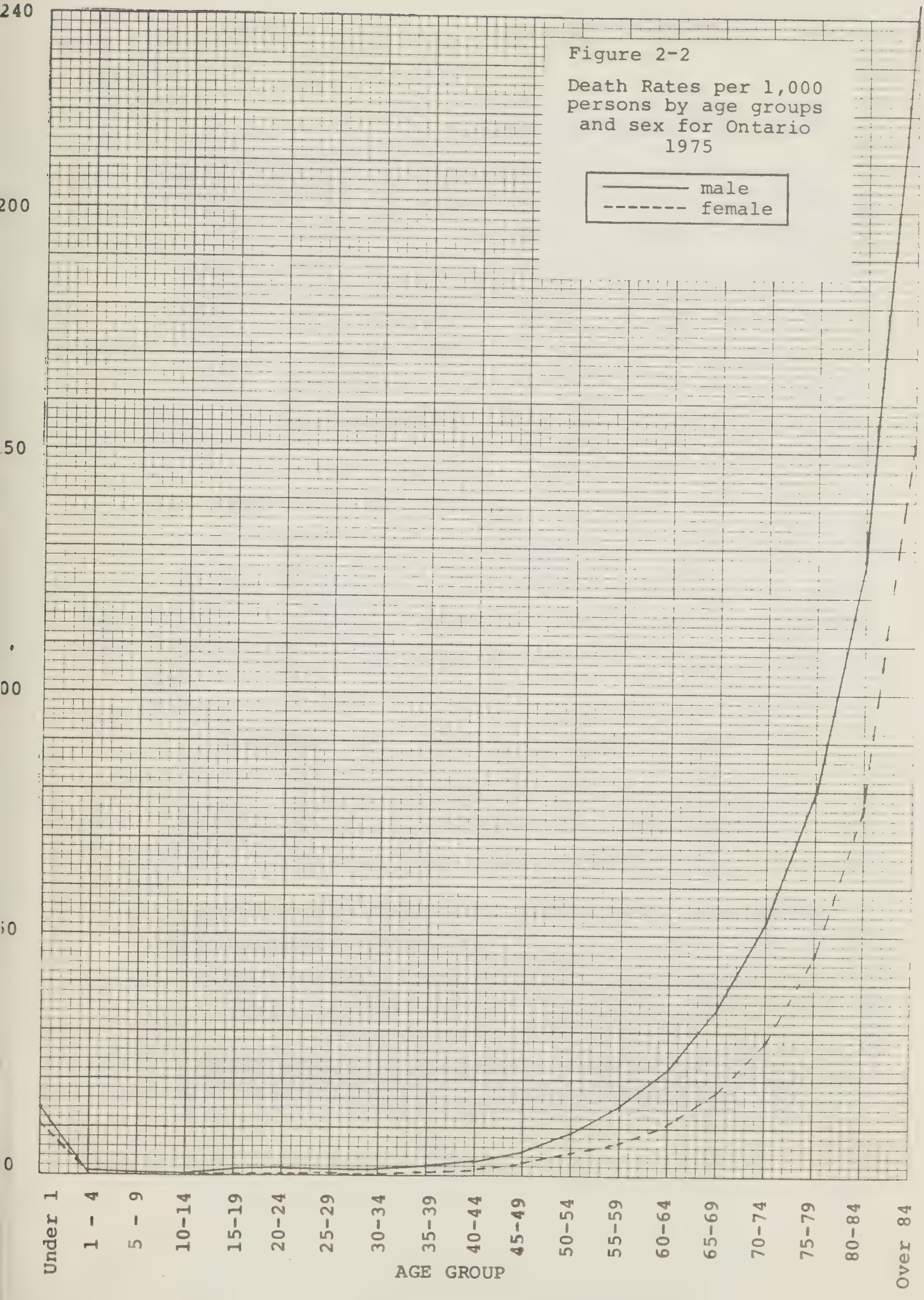


Figure 2-2
Death Rates per 1,000 persons by age groups and sex for Ontario 1975
male
female
240
200
150
100
50
0
Under 1
1 - 4
5 - 9
10-14
15-19
20-24
25-29
30-34
35-39
40-44
45-49
50-54
55-59
60-64
65-69
70-74
75-79
80-84
Over 84
AGE GROUP

3. The Geography of Simcoe County

The word 'demography' implies study of the spatial distribution of population and of its characteristics. The distributions are hypothetically determined by geographical features, natural or man-made, such as land quality, water supply, roads, and schools. Changes in distributions are believed to be partially controllable, for example by the control of land use, siting of roads and facilities, and provision of water, sewer and other public utilities; and are partially the result of complex economic and social forces.

It follows that mapping is essential in demography and any planning connected with it. Both population statistics and physical features must be related to a common grid system. For convenience in analysis, the grid and the numbers should be computer-readable (providing the requisite computer programs and plotting facilities exist).

The process of converting Simcoe County geography and demography into computerized form was somewhat furthered in this project, although much remains to be done. The City of Toronto Planning Board has an advanced system which is an example of what can be done.

In the 1971 Census, Statistics Canada made provision for creating computerized spatial population information. The smallest unit of population counted is called an Enumeration Area, averaging about 400 persons*. Each

* The average may be 400, but the range in Simcoe County was from 60 to 1815 persons; which made our early computer maps look rather strange.

province, county, township, and each incorporated city, town, and village with local government is divided into an appropriate number of EA's; and the centroid of each EA has been located in the Universal Transverse Mercator grid system. This is a 'metric' system - the grid is numbered off in kilometres; and the newer series of maps (1: 25,000, 1: 50,000, etc.) from the federal and provincial governments are marked with this grid. Consequently it is possible to relate physical and population characteristics to each other, by translating features from maps to computer-readable form (and by plotting overlays onto physical maps).

With the help of the Geography Department, Faculty of Arts, York University, the outer boundaries and township boundaries within Simcoe County were 'digitized' from maps and expressed in the UTM grid system. Also, the locations of high schools in the county were recorded in the same system. For further development as a planning tool, the conversion to computer records could be continued: rails and roads; land values and uses; geological features; agricultural land quality; and so on and on. Figure 3-1 is a computer-plotted map showing township boundaries.

It was decided to use the census subdivisions as the basis for spatial distribution of population in the projections. On the one hand, computing costs increase as the number of subunits increases; on the other, larger units mean a coarser representation of the true distribution. The census subdivisions enjoy the advantage of appearing in published tabulations of births, deaths, population,

area, and other characteristics necessary to add them to the model.

Table 3-1 gives selected characteristics of each census subdivision.

3.1 Assignment to Stage-of-development status

Land use areas in part 1 were calculated by using the concession and lot-line grid in each township to divide the township into rectangles of about 0.4 sq. km. Each rectangle was assigned a land use according to a map prepared for the Toronto-Centered Region Study in 1971. We were primarily interested in comparing population densities between urban and rural areas, leaving out of rural areas land uses considered unlikely to attract housing. The comparison is still very rough: non-residential areas in urban places are not allowed for. The population density was one factor used in assigning a subdivision to an S-curve segment: the higher the density, the higher up the S-curve.

The figure below shows the S-curve schematically and the segments corresponding to five stages of development:

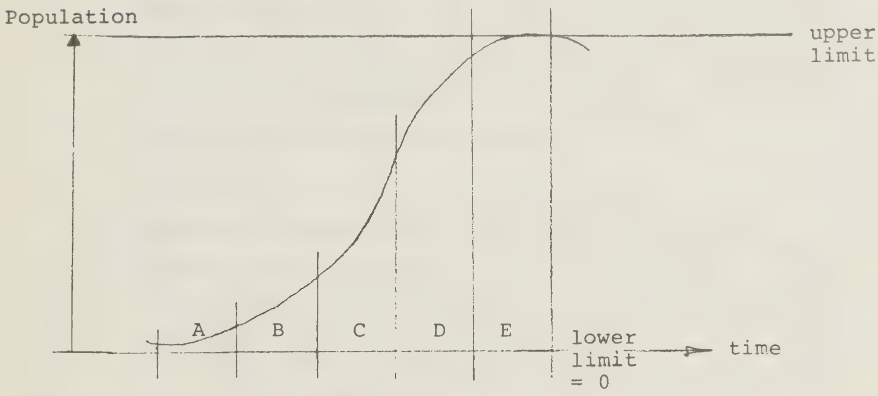
A: rural: small, aging, population; negative net migration as farmers retire to towns

B: rural: small population; in earliest stage of development (commutershed); positive net migration

C: rural-suburban: rapid growth; positive net migration, young families

D: suburban-urban: slower growth, development reaching saturation, land prices increasing and incoming migration older

E: urban: land nearly filled up; small net migration; population stable and aging.



The S-curve

The S-curve has the equation $P_{t,+\theta} = \dfrac{K}{1 + e^{a + b\theta}}$

where P is population

t, is starting year

θ is number of years past starting year

K is capacity.

Rearranging and taking logs of both sides the equation is seen to be in the form of a straight line

in $\ln(\frac{K - P}{P})$ versus θ: $\ln(\frac{K - P}{P}) = b\theta + a$.

The slope b and vertical-axis-intercept a can be calculated from the 1971 population, the 1976 population, and the capacity, for each subdivision. If the 1976 population is greater than the 1971 population, and both are less than the capacity, the slope will be negative; and, as time passes and the population becomes closer to the capacity, the log will become more negative. The number of years required to reach a given negative value is thus a measure of the subdivision's rate of progress along its own S-curve; and the rate is a clue to its location on the curve. Figure 3-2 shows log versus time lines for townships in Simcoe County.

Each census subdivision was assigned to a stage-of-development category based on the number of years required to reach 1% of capacity at the growth rate 1971 to 1976; and the population density of its total residential and agricultural areas in 1976. The assignments are shown in Table 3-1, part 1.

3.2 Share of Net Migration 1971-1976

As mentioned earlier, net migration is not directly recorded* and is estimated by subtracting natural increase (births minus deaths) from population change.

* Good estimates can be made from changes in Family Allowance and Canada Pension address changes; and from changes in Municipal Enumeration data.

Net migration may be either positive or negative. To calculate share of county net migration for each census subdivision, the populations in 1971 and 1976 and births and deaths in that interval, were used. Some figures were estimated where tables were incomplete.

3.3 Population Centroid

The centroid is the 'center of gravity' or 'balance point' of the county's population. The centroid is the point at which the airline travel distance to provide a service to the population from a single facility is a minimum.

The co-ordinates of the center of each census subdivision are multiplied by the population of that subdivision, and divided by the whole population: $\overline{X} = (\Sigma P_i X_i) \div \Sigma P_i$. The smaller the subdivision, the more accurate the centroid calculations.

The 1976 centroid for Simcoe County was about 0.894 km. west and 0.457 km. south of Midhurst. The movement of the centroid is calculated with the population projection.

3.4 Population Characteristics - 1971 Census

A computer file of 1971 Census data for each EA was selected from files in the library of the Institute for Behavioural Research, York University. Each record contains 987 data elements covering education, housing,

occupations, income, and other matters. Some information is derived from a 100% survey (every person in the EA was queried); and the remainder is extrapolated from a 30% survey using a longer and more detailed questionnaire.

A listing of the contents of those records is available from the author, as are copies of the computer file on tape. There are three ways this data can be aggregated and/or plotted: selecting by identification number (e.g. naming and adding all the EA's in a given Township); second, by range of coordinates (e.g. selecting all the EA's in the southern half of the county); and third, by selecting all EA's having a given characteristic, and plotting their location (e.g. location of EA's where mother tongue is French for more than X% of the population).

FIGURE 3-1

Giants
Tomb
Is.
Beckwith
Is.
Penetang-
uishene
Victoria
Harbour
Midland
Port
McNicoll
MATCHEDASH
Port Severn
Waubaushene
ORILLIA
RAMA
Coldwater
TAY
TINY
MEDONTE
Orillia
MARA
NOTTAWASAGA
BAY
Elmvale
FLOS
ORO
Wasaga
Beach
Midhurst
LAKE
SIMCOE
VESPRA
Barrie
Stayner
NOTTAWASAGA
SUNNIDALE
Angus
INNISFIL
Creemore
ESSA
TOSORONTIO
Cookstown
WEST
GWILLIMBURY
Alliston
TECUMSETH
Bradford
Beeton
ADJALA
Tottenham

Table 3-1
Part 1

CHARACTERISTICS OF SIMCOE COUNTY SUBAREAS IN POPULATION PROJECTION MODEL

SUBDIVISIONS	Population Capacity	1971 population		1976 population		share of 1971 - 1976 county net migration	estimated # years to reach capacity	assigned stage-of-development-category
		#	density	#	density			
Adjala	6,000	2,278	12.2	3,386	18.1	.0351	34.0	C
Alliston	15,000	3,176	1,095.2	4,155	1,432.8	.0290	86.8	C
Barrie	125,000	27,676	954.3	34,389	1,185.8	.1944	101.5	C
Beeton	3,500	1,061	589.4	1,604	891.1	.0175	40.5	D
Bradford	12,000	3,401	459.6	5,080	666.5	.0473	44.6	D
Coldwater	2,000	759	583.8	803	617.7	.0011	262.5	B
Collingwood	35,000	9,775	461.1	11,114	524.2	.0441	150.0	B
Cookstown	3,000	847	564.7	874	582.7	.0012	601.4	D
Creemore	3,000	978	444.5	1,089	495.0	.0042	168.5	B
Elmvale	3,000	1,103	459.6	1,176	490.0	.0018	252.0	B
Essa	25,600	12,078	42.6	14,369	50.7	.0550	64.0	C
Flos	4,000	2,950	11.4	2,429	9.4	.0003	196.0	A
Gwillimbury, West	5,600	3,272	16.0	3,974	19.4	.0156	38.7	C
Innisfil	30,000	10,500	36.9	14,839	52.2	.1315	43.7	C
Mara	10,000	3,071		3,654	14.2	.0190	103.3	B
Matchedash	1,000	428	2.2	462	2.3	.0004	222.3	A
Medonte	5,500	2,895	10.1	3,736	13.0	.0270	35.0	C
Midland	46,400	10,992	955.8	11,568	1,005.9	.0063	424.3	D
Nottawasaga	6,500	5,458	14.3	4,959	13.0	.0051	62.2	C
Orillia, City of	80,000	24,040	1,063.7	24,412	1,066.0	-.0061	1,008.3	E
Orillia, Township of	10,000	5,032	16.6	6,399	21.1	.0431	41.0	C
Oro	11,000	5,190	16.3	6,221	19.5	.0308	62.7	C
Penetanguishene	21,600	5,497	631.8	5,460	627.6	-.0036	not possible	E
Port McNicoll	6,400	1,450	604.2	1,522	634.2	-.0002	441.5	A
Rama	2,400	11,000		1,287	7.7	.0061	77.1	B
Stayner	6,500	1,937	379.8	2,454	481.2	.0190	77.1	C
Sunnidale	4,000	2,349	11.7	2,265	11.3	.0015	343.5	A
Tay	8,000	4,321	22.4	6,379	33.1	.0676	18.4	C
Tecumseth	7,300	4,158	14.0	5,803	20.6	.0538	20.2	C
Tiny	8,000	5,519	15.0	6,682	18.2	.0317	23.0	C
Tosorontio	4,500	2,963	16.0	3,017	16.3	-.0012	379.2	A
Tottenham	5,200	1,616	950.1	2,747	1,615.9	.0301	29.6	D
Vespra	10,000	4,183	15.9	5,265	20.0	.0267	56.5	C
Victoria Harbour	5,600	1,243	318.7	1,310	335.9	.0317	487.5	C
Wasaga Beach	15,000	1,923	36.2	4,985	93.9	.0507	62.5	D
Simcoe Indian Reserves	2,000	435	10.3	823	19.5	.0135	31.7	C
County Total	549,600	175,604	35.4	210,691	43.5	1.0000		

Table 3-1
Part 2

CHARACTERISTICS OF SIMCOE COUNTY SUBAREAS IN AREAS PROJECTION MODEL

SUBDIVISIONS	total area square km.	Residential	Agricultural	commercial & industry	woodland	park	extractive	institutional	water
Adjala	186.6	11.32	126.81	1.56	42.14	3.12	1.95	0.00	0.00
Alliston	2.9								
Barrie	29.0								
Beeton	1.8								
Bradford	7.4								
Coldwater	1.3								
Collingwood	21.2								
Cookstown	1.5								
Creemore	2.2								
Elmvale	2.4								
Essa	283.5	8.90	173.50	1.21	66.73	6.07	0.81	26.29	0.00
Flos	258.5	10.32	153.55	2.15	69.25	19.36	2.15	0.00	1.72
Gwillimbury, West	205.1	17.60	141.24	2.05	31.93	11.46	0.82	0.00	0.00
Innisfil	284.4	40.81	168.99	4.95	62.65	4.12	2.89	0.00	0.00
Mara	257.1	19.15	138.71	3.52	76.19	13.68	0.39	0.00	5.47
Matchedash	198.4	18.18	16.16	0.40	121.63	28.69	0.40	0.00	12.53
Medonte	286.4	18.41	141.70	4.28	104.88	15.41	0.86	0.00	0.86
Midland	11.5								
Nottawasaga	381.6	11.05	280.89	4.25	76.91	6.37	1.70	0.00	0.42
Orillia, City of	22.6								
Orillia, Township of	303.4	33.90	90.81	5.86	161.95	3.35	3.77	0.00	3.77
Oro	318.5	30.48	146.80	9.87	108.17	17.60	1.72	0.00	3.66
Pentanguishene	8.7								
Port McNicoll	2.4								
Rama	167.0	4.91	31.93	0.41	108.06	2.87	0.41	10.64	7.78
Stayner	5.1								
Sunnidale	200.5	2.03	140.43	0.41	45.86	6.49	3.25	1.62	0.41
Tay	193.0	20.80	71.54	2.91	77.37	11.23	1.66	0.00	7.49
Tecumseth	281.6	13.63	230.40	3.30	31.79	1.24	1.24	0.00	0.00
Tiny	367.8	32.23	122.75	3.53	157.19	45.48	3.53	0.00	3.09
Tosorontio	184.8	5.61	84.58	0.80	32.47	8.42	0.00	52.91	0.00
Tottenham	1.7								
Vespra	263.1	11.82	118.20	3.94	101.12	22.33	3.50	0.00	2.19
Victoria Harbour	3.9								
Wasaga Beach	53.1								
Simcoe Indian Reserves	42.3								
County Total	4,842.5	311.15	2,378.99	55.40	1,476.29	227.29	31.05	91.46	49.59

Table 3-1
Part 3

CHARACTERISTICS OF SIMCOE COUNTY SUBAREAS IN EA's
PROJECTION MODEL

CENSUS SUBDIVISIONS	ELECTORAL DISTRICTS	ENUMERATION AREAS INCLUDED	NUMBER OF EA's
Adjala	553	269 - 271	3
Alliston	553	312 - 316	5
Barrie	586	1 - 25, 51 - 69, 319	45
Beeton	586	222, 223	2
Bradford	586	208 - 211	4
Coldwater	567	266, 267	2
Collingwood	517	101 - 114	14
Cookstown	586	302	1
Creemore	517	71, 72	2
Elmvale	517	6, 7	2
Essa	533	301 - 308, 309 - 311, 321, 323, 342 - 345	17
Flos	517	1 - 5	5
Gwillimbury, West	586	204 - 207, 301	5
Innisfil	586	303 - 318	16
Mara	575	160 - 165	6
Matchedash	567	260	1
Medonte	567	261 - 265	5
Midland	567	352 - 367, 369, 370	18
Nottawasaga	517	56 - 67	12
Orillia, City of	567	151 - 171, 201 - 219	40
Orillia, Township of	567	251 - 259, 268	10
Oro	567	101 - 109, 116	10
Pentanguishene	567	311 - 318	8
Port McNicoll	567	309, 310	2
Rama	575	166 - 168	3
Stayner	517	68 - 70	3
Sunnidale	517	51 - 55	5
Tay	567	301 - 306, 319, 351, 368	9
Tecumseth	586	212 - 218	7
Tiny	517	8 - 17	10
Tosorontio	553	317 - 320, 322, 346	6
Tottenham	586	219 - 221	3
Vespra	567	110 - 115	6
Victoria Harbour	567	307, 308	2
Wasaga Beach	517	18 - 20	3
Simcoe Indian Reserves	517	21	1
County Total			293

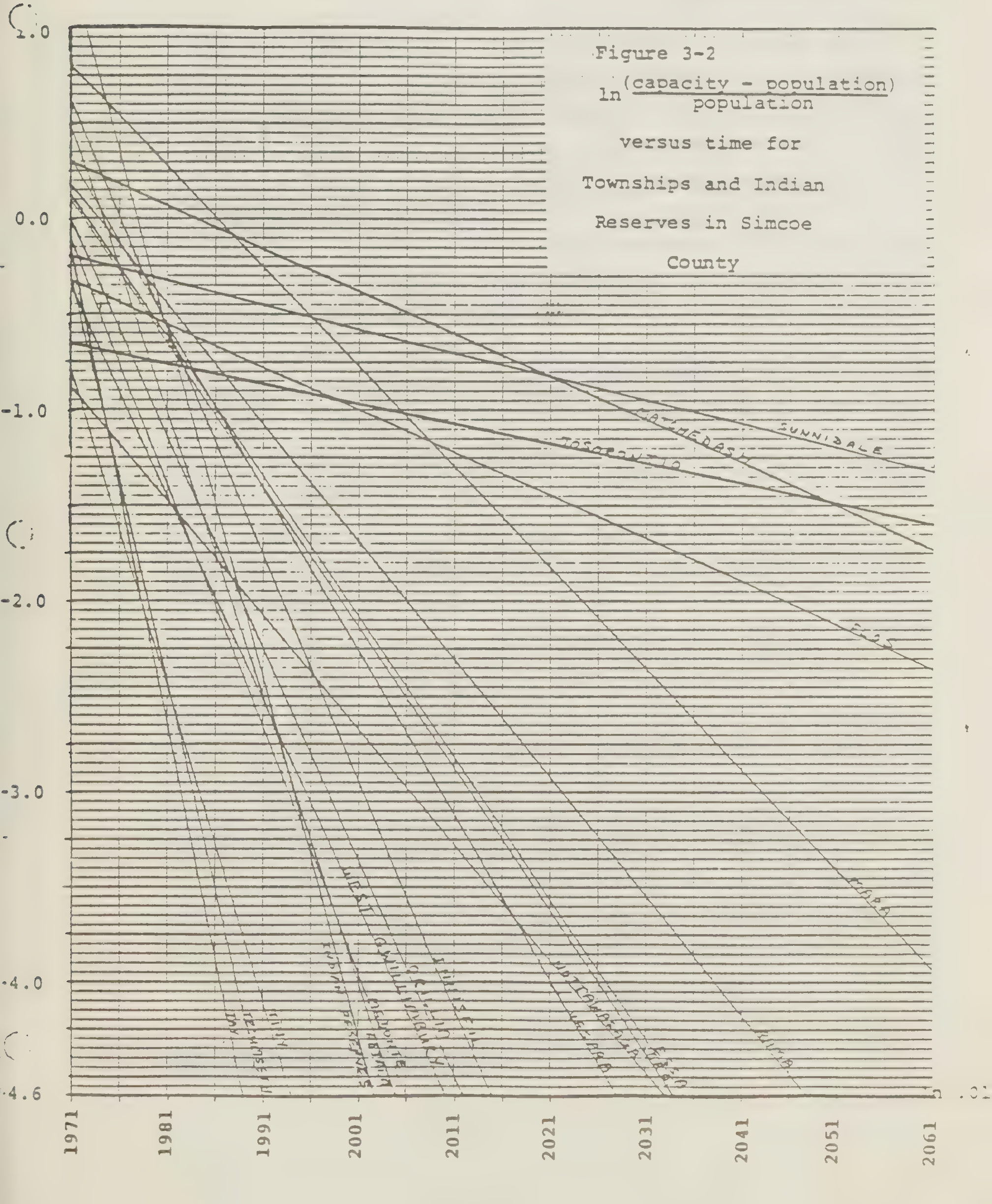


Figure 3-2

$\ln \frac{(\text{capacity} - \text{population})}{\text{population}}$

versus time for

Townships and Indian

Reserves in Simcoe

County

4. First Projection

As an example of the workings of the model, a projection was computed assuming a constant county net migration of 3,000 per annum. That figure is about half the average annual net migration from 1971 to 1976, calculated from census figures; and it is about twice the net migration in 1976-1977 calculated from enumeration (property tax) populations. It produces a county population in 1981 very close to the CODE estimate; and a population in 1991 about 90,000 less than the Simcoe-Georgian Task Force target for that year. In brief, an assumption of 3,000 p.a. net migration lies somewhere in the mid-range of values expected by some knowledgeable people. The resulting county population is plotted in figure 4-1.

Details of the results are given in the appendix: a set of projections for each of the census subdivisions and for the county, by age group and sex, with shares of births, deaths, and net migration.

Graphs of the population of each subdivision are given here in figures 4-2 through 4-7*. In these graphs are shown the consequences of assumptions concerning assignment of each area to a segment of the S-curve (which determines the flow direction by age and sex of its net migration) and fixed share of county net migration, which was based on shares of 1971-1976 net migration. It will be observed that there are several subdivisions in which the SGTF - defined capacity is exceeded (in Tiny as early as 1986) and others never

* Please note that the scales of these graphs are different.

reach their capacity. In part this is because the SGTF capacities envisioned future changes in boundaries which would keep rural areas separate from urban areas: for example, Tiny's excess would be annexed to Midland or Penetang. Nevertheless it strongly suggests that development trends in 1971-1976, if allowed to continue, would sooner or later create undesireable contradictions between land use plans and realities. The computer program is designed to facilitate exploring alternatives.

Another effect of the choice of S-curve assignments may be seen in the changes in age distribution shown in figure 4.8. In this figure, the age distributions from the 1971 and 1976 censuses are compared with the calculated 1986 age distribution from cases 0 (zero net migration) and 1 (3,000 p.a. N.M.). Age groups are plotted at their midpoint, and 10-year groups have been divided in half to facilitate comparison.

The 1976 and 1971 graphs show general features similar to Ontario as a whole, as reported in the CODE report*: an increasing dip in ages up to 10, a plateau about 30, an increasing overall downward slope towards the higher ages. Since only deaths and migration affect the membership of cohorts above 1 year old, the displacement of a point over five years (see arrow) is the net result of these flows. Evidently the bulk of 1971-1977 net migration was in the age ranges from about 20-30, 5-15, and 35-40 in that order of significance.

With zero net migration, in 1976-1986 all cohorts

* see chart 2.9, CODE report.

get ten years older and a little smaller, while birth rates keep the 0-4 age group almost constant. With 3,000 p.a., the choice of S-curve segment assignments has produced substantial increases in the 20-40 age groups, and because these include the ages of greatest fertility, the number of children up to 10 has increased. Nevertheless the number of children in elementary, secondary, and post-secondary age groups shows a decline from 1976 levels. The changes in age group sizes over the whole projection period are shown in figure 4-9 to 4-13. Clearly the age and sex distribution of net migration is at least as important as total numbers, and bears further study (see conclusion).

CENSUS POPULATION OF CENSUS SUBDIVISIONS

SIMCOE COUNTY

ACTUAL ⟵ | ⟶ PROJECTED

SUBDIVISIONS	1921	1931	1941	1951	1956	1961	1966	1971	1976	1981	1991	2001
Adjala	1,613	1,574	1,384	1,392	1,626	1,628	1,707	2,278	3,386	4,070	5,541	7,103
Alliston	1,376	1,355	1,733	1,987	2,426	2,884	3,149	3,176	4,155	4,742	5,960	7,237
Barrie	6,936	7,776	9,725	12,514	16,851	21,169	24,016	27,676	34,389	39,071	48,566	57,691
Beeton	582	563	594	613	675	810	998	1,061	1,604	1,976	2,601	3,615
Bradford	961	972	1,033	1,483	2,010	2,342	2,529	3,401	5,080	6,136	8,369	10,546
Coldwater	658	628	549	583	693	726	720	759	803	797	838	891
Collingwood	5,882	5,809	6,270	7,413	7,978	8,385	8,471	9,775	11,114	12,107	14,328	16,356
Cookstown	---	---	---	---	---	---	717	847	874	897	947	995
Creemore	653	591	629	698	838	850	878	978	1,089	1,156	1,316	1,495
Elmvale	---	---	---	808	897	957	1,031	1,103	1,176	1,198	1,269	1,348
Essa	2,910	3,631	2,999	10,176	12,658	13,753	14,455	12,028	14,369	16,079	19,718	23,044
Flos	3,034	3,929	2,816	2,020	2,315	2,500	2,342	2,950	2,429	2,511	2,707	2,622
Gwillimbury, West	1,994	1,815	1,842	2,294	2,455	2,642	2,629	3,272	3,974	4,369	5,246	6,125
Innisfil	3,330	3,162	3,397	4,238	6,021	6,987	7,853	10,500	14,839	17,217	22,401	28,075
Mara	2,458	2,301	2,059	2,143	2,357	2,495	2,651	3,071	3,654	4,031	4,894	5,811
Matchedash	507	480	442	397	365	381	342	428	462	462	475	482
Medonte	2,723	2,533	2,274	2,201	2,388	2,362	2,396	2,895	3,736	4,286	5,439	6,657
Midland	7,016	6,920	6,800	7,206	8,250	8,656	10,129	10,992	11,568	12,091	13,162	13,871
Nottawasaga	4,110	3,759	3,675	3,609	3,970	4,271	4,334	5,458	4,959	5,042	4,377	5,691
Orillia, City of	7,631	8,183	9,798	12,110	13,857	15,345	15,295	24,040	24,412	25,130	26,507	26,967

CENSUS POPULATION OF CENSUS SUBDIVISIONS
SIMCOE COUNTY

	ACTUAL									PROJECTED		
SUBDIVISIONS	1921	1931	1941	1951	1956	1961	1966	1971	1976	1981	1991	2001
Orillia, Township of	4,561	4,979	5,335	6,705	8,645	10,054	11,052	5,032	6,399	7,259	9,147	11,060
Oro	3,098	2,842	2,819	2,923	3,880	4,284	3,956	5,190	6,221	6,887	8,278	9,616
Pentanguishene	4,037	4,035	4,521	4,949	5,420	5,340	5,349	5,497	5,460	5,568	5,809	5,825
Port McNicoll	1,074	964	973	884	932	1,053	1,208	1,450	1,522	1,562	1,676	1,772
Rama	1,229	1,027	832	797	818	916	956	1,100	1,287	1,390	1,636	1,917
Stayner	972	1,019	1,085	1,280	1,429	1,671	1,772	1,937	2,454	2,740	3,397	4,146
Sunnidale	2,070	2,013	2,009	2,034	2,633	2,866	2,149	2,349	2,265	2,351	2,586	2,739
Tay	3,159	2,770	2,649	2,793	3,105	3,670	3,187	4,321	6,379	7,617	10,301	13,114
Tecumseth	2,942	2,838	2,596	2,566	2,911	3,209	3,106	4,158	5,803	6,881	9,219	11,640
Tiny	4,026	3,693	3,554	3,970	4,071	4,430	4,621	5,519	5,582	7,378	8,967	10,531
Tecorontio	1,672	1,395	1,346	1,444	1,806	1,886	1,884	2,963	3,017	3,144	3,452	3,666
Tottenham	494	566	561	591	702	778	781	1,616	2,747	3,419	4,861	6,372
Vespra	2,281	2,486	2,364	2,999	3,314	3,489	3,185	4,183	5,265	5,915	7,329	8,708
Victoria Harbour	1,463	1,128	1,026	953	1,012	1,066	1,114	1,243	1,310	1,357	1,432	1,486
Wasaga Beach	---	---	---	387	529	431	1,382	1,923	4,985	5,902	7,912	9,864
Simcoe Indian Reserve	267	259	286	262	354	396	395	435	823	1,091	1,662	2,274
County Total	83,762	86,996	89,948	109,422	130,191	144,682	152,739	175,604	210,691	233,778	283,528	331,548
Not including Mara & Rama	80,065	83,667	87,057	106,482	127,271	141,132	149,132	171,433	205,750	228,357	276,998	323,820

Figure 4-1

Total Census Population
Simcoe County

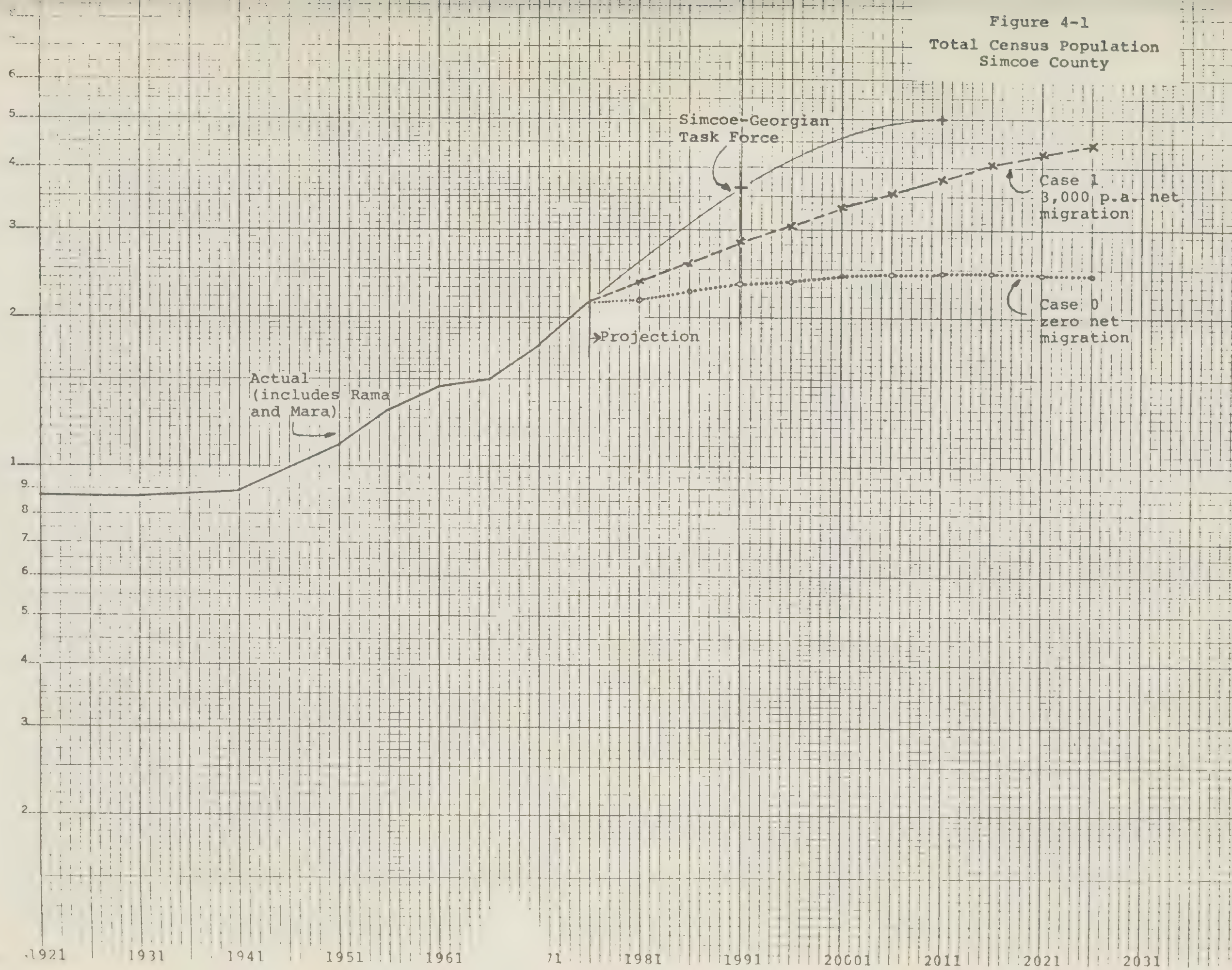


Figure 2-3, p 1 of 2

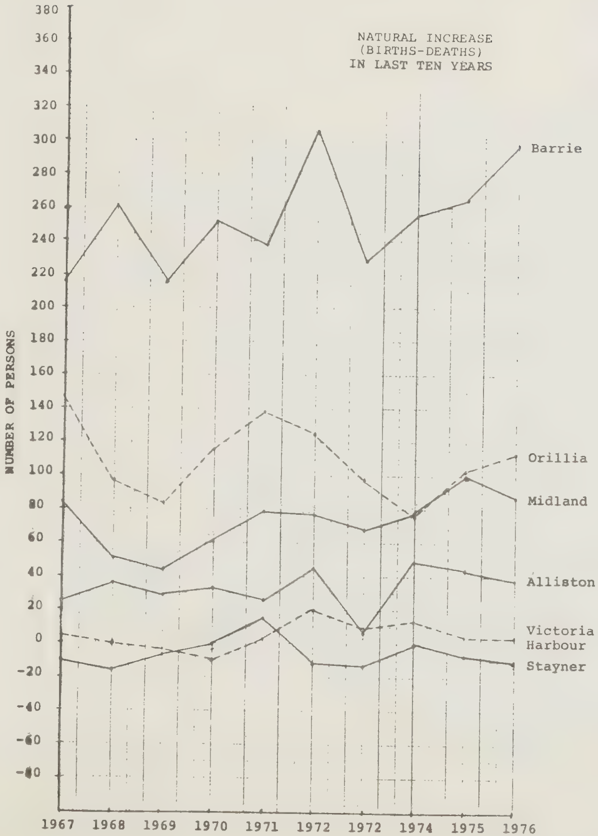


Figure 2-3, p 2 of 2

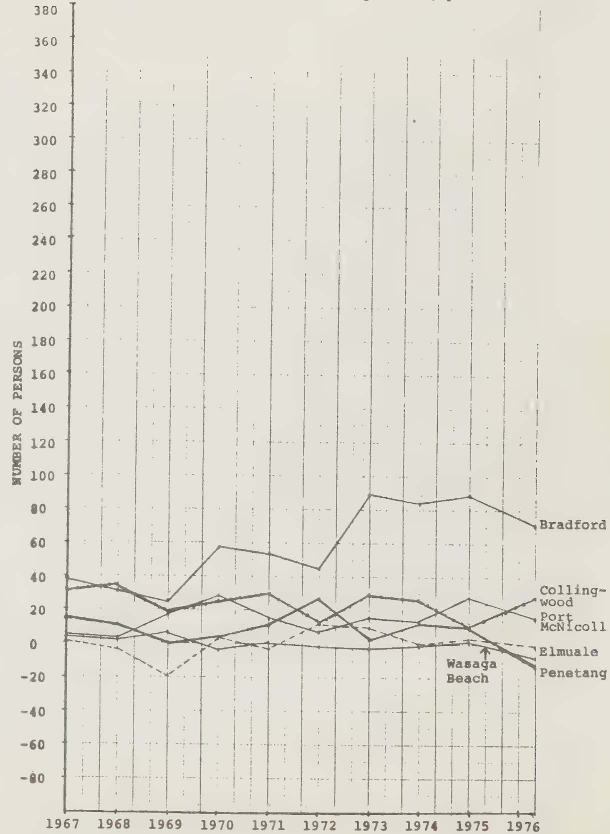


Figure 4-2

Case 1: 3,000/year constant net migration

Population Projections for cities, towns, villages, townships and Indian Reserves of Simcoe County

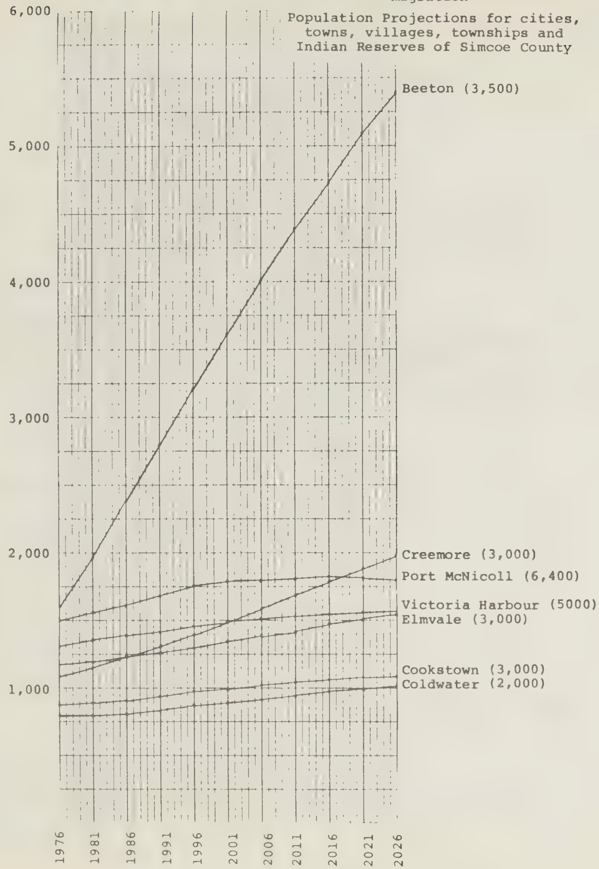


Figure 4-3

Case 1: 3,000/year constant net migration

Population Projections for cities, towns, villages, townships and Indian Reserves of Simcoe County

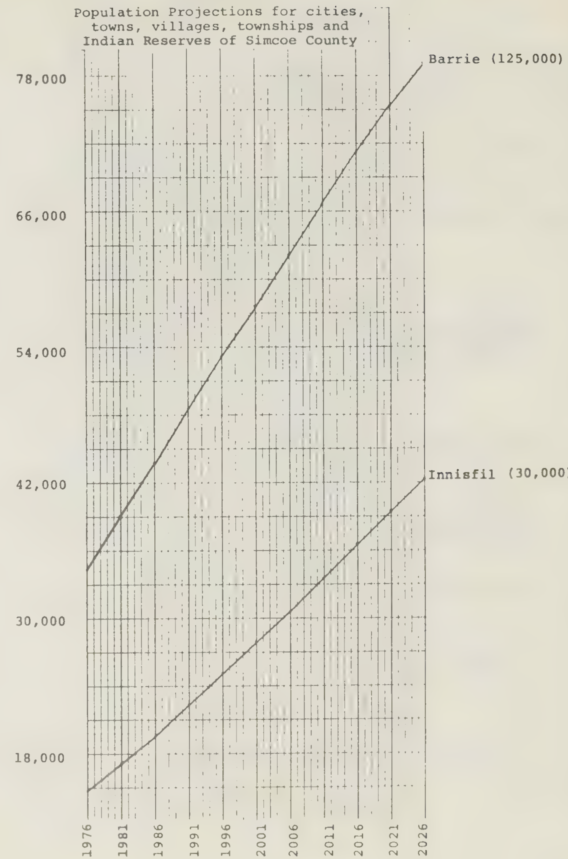


Figure 4-4

Case 1: 3,000/year constant net migration

Population Projections for cities towns, villages, townships and Indian Reserves of Simcoe County

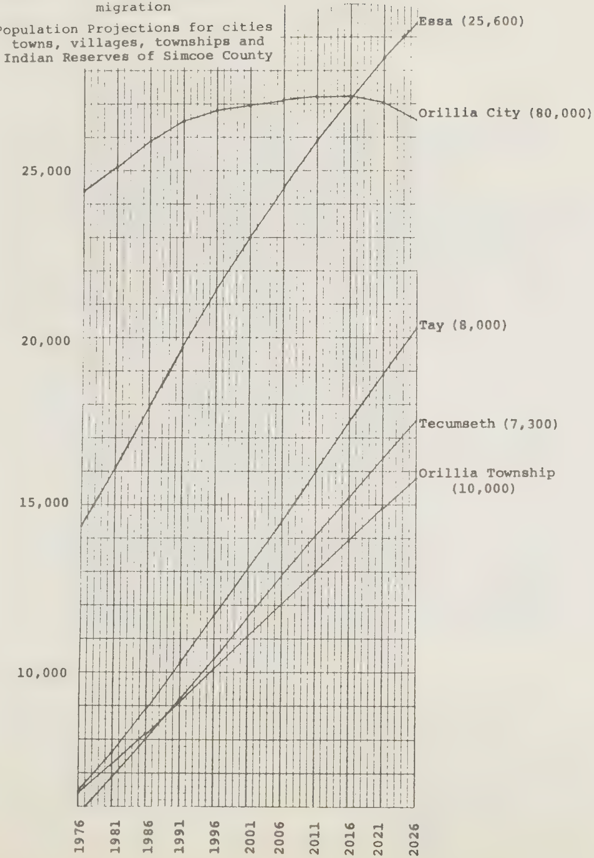


Figure 4-5

Case 1: 3,000/year constant net migration

Population Projections for cities towns, villages, townships and Indian Reserves of Simcoe County

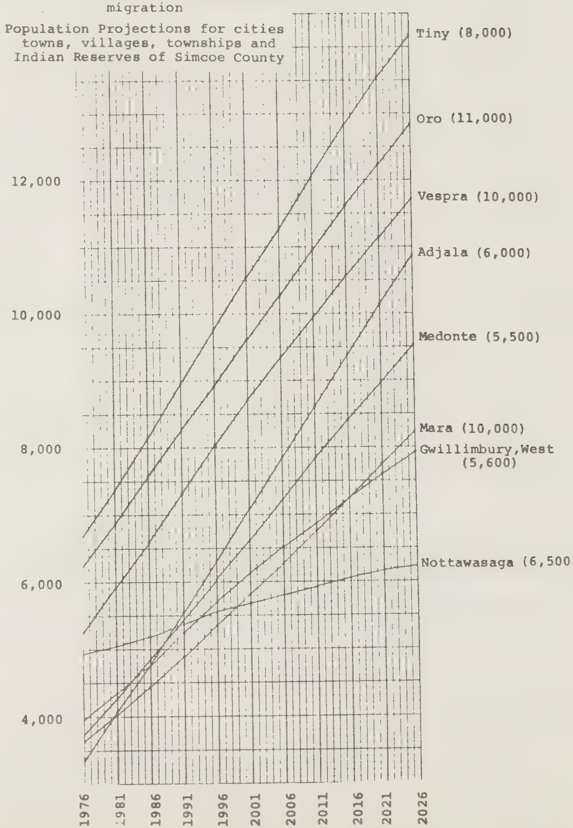


Figure 4-6

Case 1: 3,000/year constant net migration

Population Projections for cities towns, villages, townships and Indian Reserves of Simcoe County

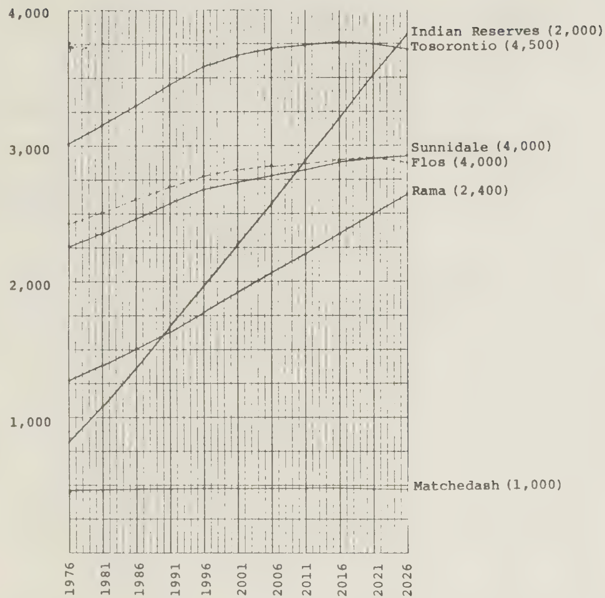
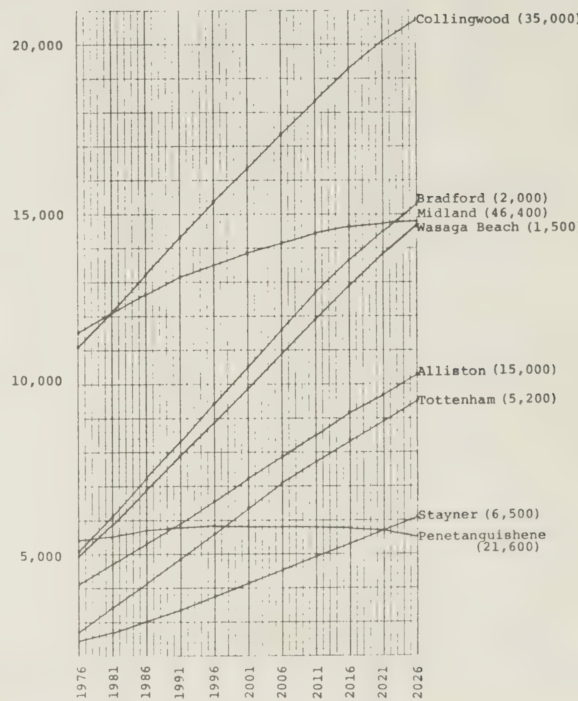


Figure 4-7

Case 1: 3,000/year constant net migration

Population Projections for cities towns, villages, townships and Indian Reserves of Simcoe County



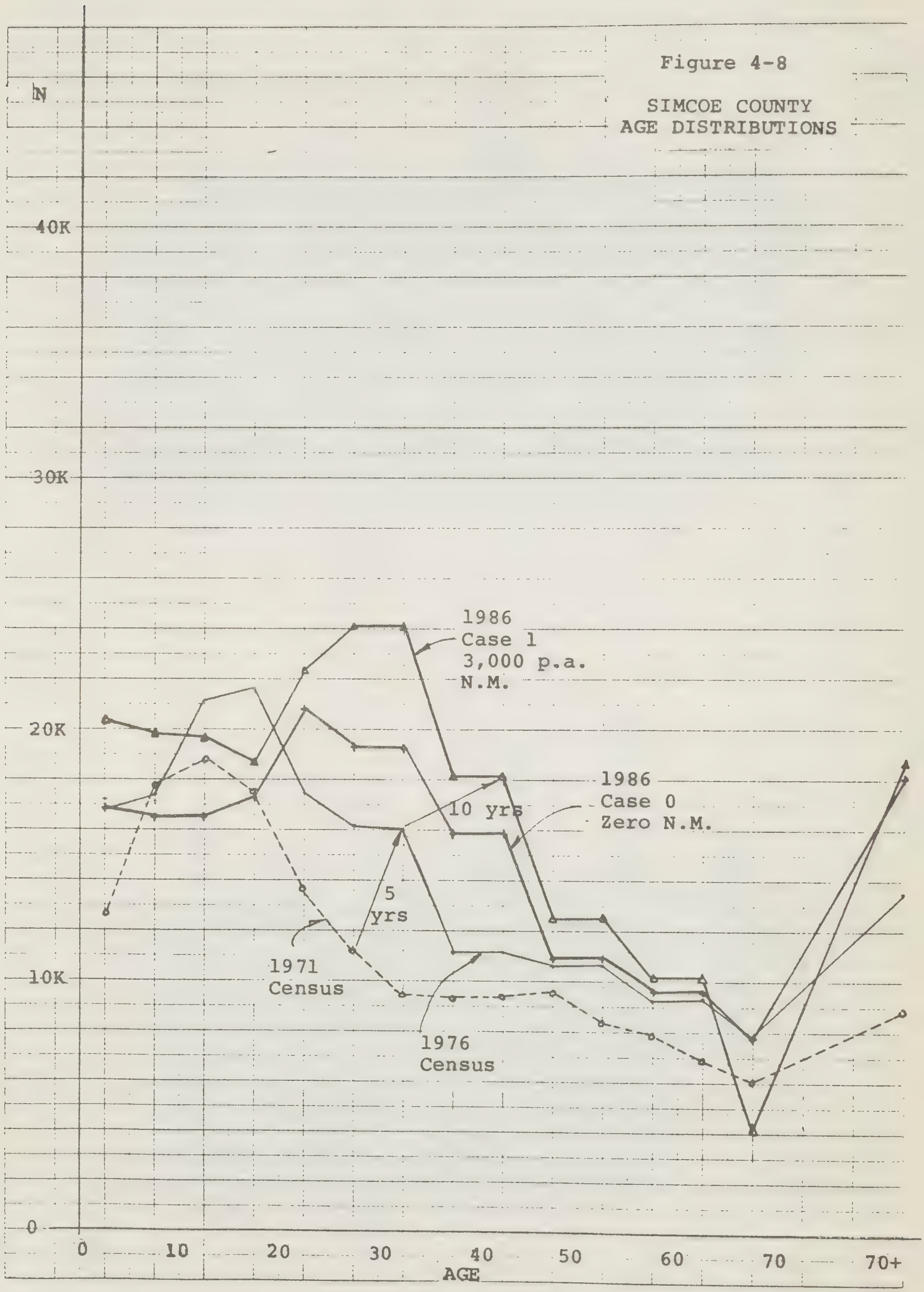


Figure 4-8
SIMCOE COUNTY
AGE DISTRIBUTIONS
N
40K
30K
20K
10K
0
1986
Case 1
3,000 p.a.
N.M.
1986
Case 0
Zero N.M.
10 yrs
5
yrs
1971
Census
1976
Census
0
10
20
30
40
50
60
70
70+
AGE

Figure 4-9

Case 1: 3,000/year constant net migration

Population Projections for Simcoe County by age groups

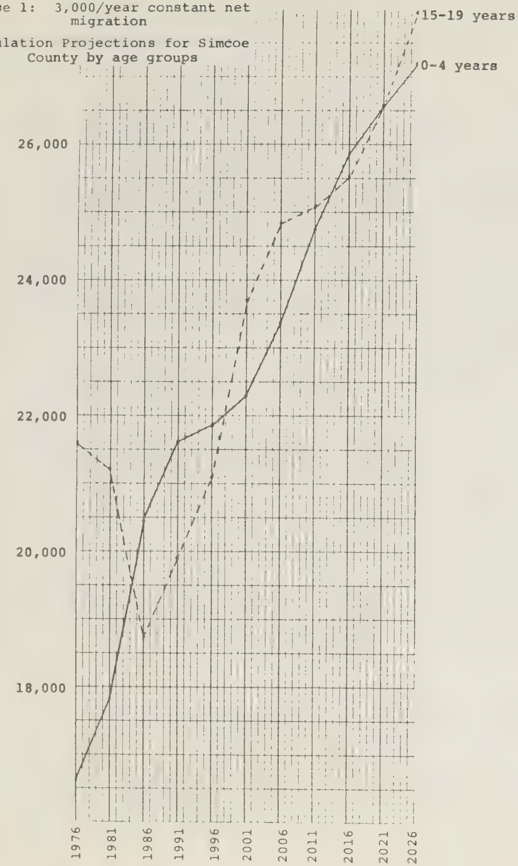


Figure 4-10

Case 1: 3,000/year constant net migration

Population Projections for Simcoe County by age groups

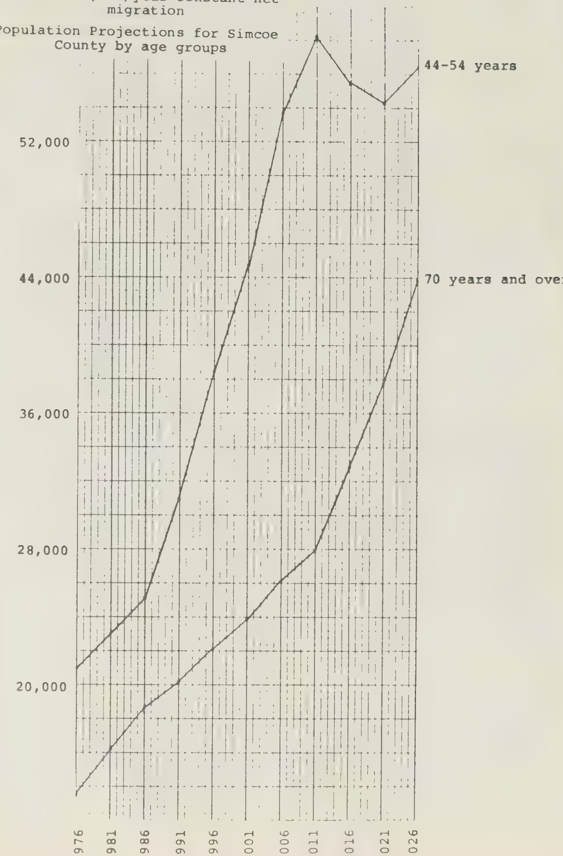


Figure 4-11

Case 1: 3,000/year constant net migration

Population Projections for Simcoe County by age groups

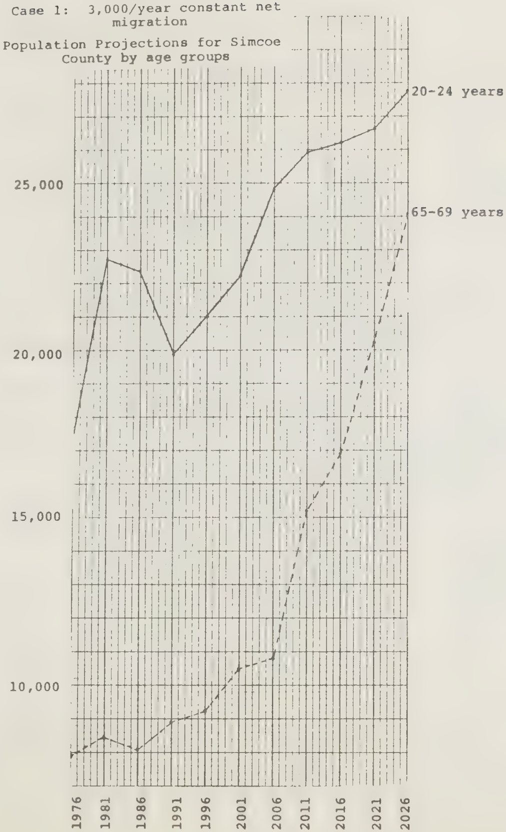


Figure 4-12

Case 1: 3,000/year constant net migration

Population Projections for Simcoe County by age groups

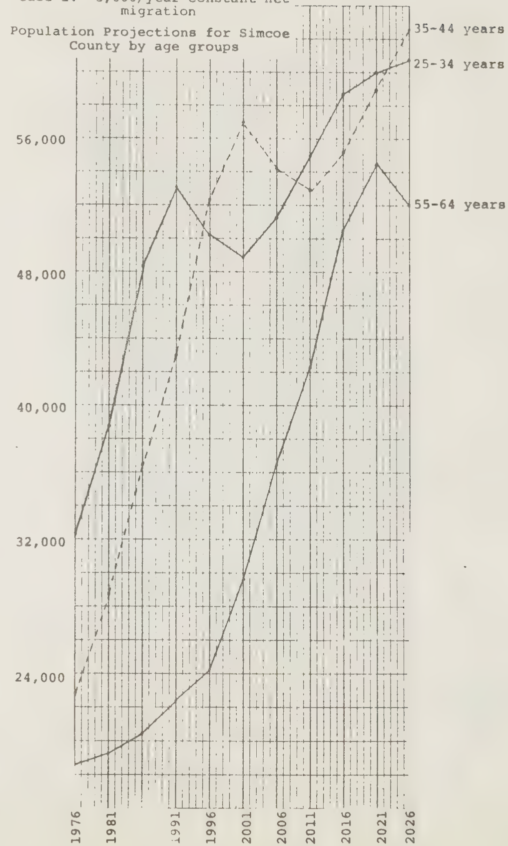
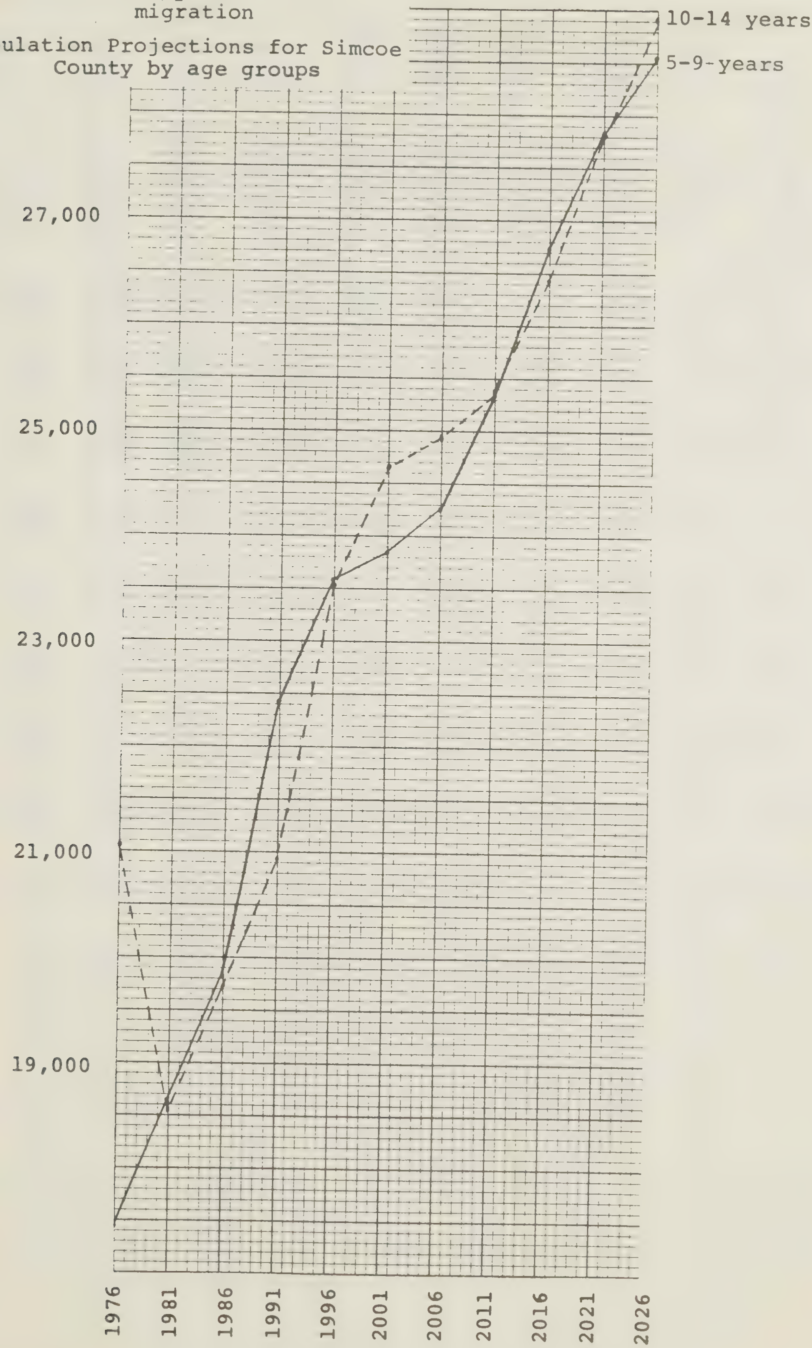


Figure 4-13

Case 1: 3,000/year constant net migration

Population Projections for Simcoe County by age groups



TOTAL POPULATION PROJECTION FOR SIMCOE COUNTY

YEAR	SEX	0-4	5-9	10-14	15-19	20-24	25-34	35-44	45-54	55-64	65-69	70+	TOTAL	POP.DENSITY PER SQ KM	
1976	M	8515	8945	10950	11485	8915	16365	11795	10450	8885	3875	5795	105975		
	F	8120	8520	10125	10120	8670	15970	10980	10595	9810	4055	7745	104710	ALL LAND	43.51
	T	16635	17465	21075	21605	17585	32335	22775	21045	18695	7930	13540	210685	AGR/RES LAND	72.49
1981	M	9096	9540	9493	10949	11912	19622	14672	11678	9206	3874	6471	116512		
	F	8744	9094	9081	10293	10836	19259	14104	11427	10048	4607	9774	117266	ALL LAND	48.28
	T	17840	18634	18574	21242	22749	38881	28775	23104	19254	8481	16244	233778	AGR/RES LAND	80.44
1986	M	10430	10116	10086	9498	11381	24700	18481	12881	9924	3612	6880	127988		
	F	10031	9715	9654	9251	11008	23605	18070	12278	10586	4490	11836	130525	ALL LAND	53.38
	T	20461	19832	19741	18748	22389	48305	36551	25158	20510	8102	18717	258513	AGR/RES LAND	88.95
1991	M	11018	11445	10662	10088	9940	27131	21686	15663	11039	4110	6939	139720		
	F	10597	10997	10274	9823	9969	25932	21332	15340	11377	4816	13352	143809	ALL LAND	58.55
	T	21615	22441	20936	19911	19909	53063	43017	31004	22416	8926	20290	283528	AGR/RES LAND	97.56
1996	M	11144	12030	11987	10662	10526	25175	26679	19298	12087	4230	7344	151163		
	F	10719	11561	11554	10442	10539	25066	25639	19203	12175	4987	14818	156703	ALL LAND	63.58
	T	21863	23591	23542	21104	21065	50242	52318	38501	24262	9217	22162	307866	AGR/RES LAND	105.93
2001	M	11368	12156	12572	11982	11095	24335	29058	22379	14621	5012	7682	162261		
	F	10934	11683	12118	11720	11158	24601	27939	22393	15093	5532	16116	169287	ALL LAND	68.47
	T	22302	23839	24690	23702	22253	48936	56997	44772	29714	10545	23799	331548	AGR/RES LAND	114.08
2006	M	11913	12378	12698	12564	12406	25479	27132	27170	17824	5130	8467	173161		
	F	11459	11897	12239	12283	12432	25785	27079	26595	18719	5723	17603	181814	ALL LAND	73.30
	T	23373	24275	24937	24847	24839	51263	54211	53765	36542	10853	26070	354975	AGR/RES LAND	122.14
2011	M	12620	12920	12919	12689	12984	27343	26312	29409	20589	7047	9020	183852		
	F	12140	12420	12453	12404	12995	27672	26621	28828	21741	8155	18926	194356	ALL LAND	78.10
	T	24759	25341	25372	25093	25979	55015	52933	58237	42330	15202	27946	378208	AGR/RES LAND	130.14
2016	M	13189	13623	13460	12910	13108	29211	27438	27556	24864	7853	10783	193996		
	F	12689	13098	12975	12617	13116	29501	27794	27983	25702	9076	22061	206611	ALL LAND	82.73
	T	25878	26721	26436	25527	26224	58712	55232	55539	50566	16929	32844	400607	AGR/RES LAND	137.84
2021	M	13551	14189	14161	13450	13328	29904	29273	26794	26771	9322	12449	203193		
	F	13037	13644	13651	13138	13328	30181	29665	27546	27783	10903	25313	218191	ALL LAND	87.02
	T	26588	27334	27813	26593	26656	60036	58939	54340	54554	20225	37763	421384	AGR/RES LAND	144.99
2026	M	13064	14550	14727	14148	13863	3 246	31106	27874	25106	11380	14539	211402		

...HS, DEATHS AND NET MIGRATION FOR SIMCOE COUNTY

YEAR		SEX	0-4	5-9	10-14	15-19	20-24	25-34	35-44	45-54	55-64	65-69	70+	TOTAL
1977	BIRTHS BY AGE OF MOTHER	M	0	0	0	189	528	818	78	0	0	0	0	1612
		F	0	0	0	182	507	786	75	0	0	0	0	1549
		T	0	0	0	370	1035	1603	152	0	0	0	0	3161
	DEATHS	M	27	4	4	14	14	21	29	69	153	127	587	1050
		F	21	3	3	4	4	9	15	38	81	68	385	631
		T	48	7	7	18	18	30	44	107	234	195	973	1681
	NET MIGRATION	M	196	186	57	-10	226	479	129	139	33	4	29	1469
		F	182	178	66	35	265	458	133	126	33	11	45	1531
		T	378	364	123	24	490	937	262	265	66	15	74	3000
1982	BIRTHS BY AGE OF MOTHER	M	0	0	0	187	622	1014	106	0	0	0	0	1929
		F	0	0	0	179	598	974	102	0	0	0	0	1854
		T	0	0	0	366	1220	1988	209	0	0	0	0	3783
	DEATHS	M	30	4	4	13	17	26	34	77	157	126	652	1140
		F	23	3	3	4	5	11	19	41	83	75	484	751
		T	53	7	7	17	22	37	53	118	240	201	1136	1891
	NET MIGRATION	M	196	186	57	-10	226	479	129	139	33	4	29	1469
		F	182	178	66	35	265	458	133	126	33	11	45	1531
		T	378	364	123	24	490	937	262	265	66	15	74	3000
1987	BIRTHS BY AGE OF MOTHER	M	0	0	0	174	616	1197	127	0	0	0	0	2114
		F	0	0	0	167	592	1150	122	0	0	0	0	2031
		T	0	0	0	341	1207	2348	248	0	0	0	0	4144
	DEATHS	M	34	5	4	12	16	31	44	87	172	121	689	1214
		F	26	3	3	4	5	14	24	45	88	75	582	868
		T	59	8	7	15	21	45	68	132	260	196	1271	2082
	NET MIGRATION	M	196	186	57	-10	226	479	129	139	33	4	29	1469
		F	182	178	66	35	265	458	133	126	33	11	45	1531
		T	378	364	123	24	490	937	262	265	66	15	74	3000
1992	BIRTHS BY AGE OF MOTHER	M	0	0	0	184	576	1244	155	0	0	0	0	2159
		F	0	0	0	177	554	1195	148	0	0	0	0	2074
		T	0	0	0	361	1130	2433	303	0	0	0	0	4233
	DEATHS	M	35	5	4	12	15	33	52	102	190	136	698	1281
		F	26	4	3	4	5	15	29	55	94	79	656	970
		T	61	9	8	16	19	48	81	157	284	215	1354	2251
	NET MIGRATION	M	196	186	57	-10	226	479	129	139	33	4	29	1469
		F	182	178	66	35	265	458	133	126	33	11	45	1531
		T	378	364	123	24	490	937	262	265	66	15	74	3000

BIRTHS, DEATHS AND NET MIGRATION FOR SIMCOE COUNTY

YEAR		SEX	0-4	5-9	10-14	15-19	20-24	25-34	35-44	45-54	55-64	65-69	70+	TOTAL
1997	BIRTHS BY AGE	M	0	0	0	200	608	1195	177	0	0	0	0	2180
	OF MOTHER	F	0	0	0	192	584	1148	170	0	0	0	0	2095
		T	0	0	0	392	1193	2343	348	0	0	0	0	4275
	DEATHS	M	35	5	5	13	15	31	63	128	212	143	737	1388
		F	27	4	3	4	5	14	34	69	103	83	727	1074
		T	61	9	8	17	20	45	97	197	315	227	1463	2462
	NET MIGRATION	M	196	186	57	-10	226	479	129	139	33	4	29	1469
		F	182	178	66	35	265	458	133	126	33	11	45	1531
		T	378	364	123	24	490	937	262	265	66	15	74	3000
2002	BIRTHS BY AGE	M	0	0	0	221	656	1209	180	0	0	0	0	2266
	OF MOTHER	F	0	0	0	213	630	1161	173	0	0	0	0	2177
		T	0	0	0	434	1287	2370	352	0	0	0	0	4443
	DEATHS	M	36	5	5	15	17	30	68	149	250	167	774	1517
		F	27	4	4	4	5	14	37	81	125	92	790	1184
		T	63	9	9	19	22	45	105	230	375	259	1565	2701
	NET MIGRATION	M	196	186	57	-10	226	479	129	139	33	4	29	1469
		F	182	178	66	35	265	458	133	126	33	11	45	1531
		T	378	364	123	24	490	937	262	265	66	15	74	3000
2007	BIRTHS BY AGE	M	0	0	0	229	722	1282	172	0	0	0	0	2405
	OF MOTHER	F	0	0	0	220	694	1231	165	0	0	0	0	2311
		T	0	0	0	450	1416	2513	337	0	0	0	0	4716
	DEATHS	M	38	5	5	15	18	32	64	178	309	178	852	1695
		F	29	4	4	5	6	15	36	95	156	99	863	1312
		T	67	9	9	20	24	47	101	273	465	277	1715	3008
	NET MIGRATION	M	196	186	57	-10	226	479	129	139	33	4	29	1469
		F	182	178	66	35	265	458	133	126	33	11	45	1531
		T	378	364	123	24	490	937	262	265	66	15	74	3000
2012	BIRTHS BY AGE	M	0	0	0	231	747	1384	176	0	0	0	0	2538
	OF MOTHER	F	0	0	0	222	717	1330	170	0	0	0	0	2439
		T	0	0	0	453	1464	2714	346	0	0	0	0	4977
	DEATHS	M	40	6	5	15	19	35	62	193	359	236	916	1887
		F	31	4	4	5	6	16	36	102	182	136	934	1456
		T	71	10	9	20	25	51	98	296	541	372	1850	3343
	NET MIGRATION	M	196	186	57	-10	226	479	129	139	33	4	29	1469
		F	182	173	66	35	265	458	133	126	33	11	45	1531
		T	378	364	123	24	490	937	262	265	66	15	74	3000

BIRTHS, DEATHS AND NET MIGRATION FOR SIMCOE COUNTY

YEAR		SEX	0-4	5-9	10-14	15-19	20-24	25-34	35-44	45-54	55-64	65-69	70+	TOTAL
2017	BIRTHS BY AGE OF MOTHER	M	0	0	0	236	752	1450	187	0	0	0	0	2625
		F	0	0	0	227	723	1393	179	0	0	0	0	2522
		T	0	0	0	463	1475	2842	366	0	0	0	0	5147
	DEATHS	M	42	6	5	16	19	37	65	183	426	267	1091	2157
		F	32	4	4	5	6	17	37	100	213	154	1086	1659
		T	74	10	9	20	25	54	103	283	639	421	2177	3817
	NET MIGRATION	M	196	186	57	-10	226	479	129	139	33	4	29	1469
		F	182	178	66	35	265	458	133	126	33	11	45	1531
		T	378	364	123	24	490	937	262	265	66	15	74	3000
2022	BIRTHS BY AGE OF MOTHER	M	0	0	0	247	768	1470	201	0	0	0	0	2686
		F	0	0	0	237	738	1413	193	0	0	0	0	2581
		T	0	0	0	484	1506	2883	394	0	0	0	0	5267
	DEATHS	M	43	6	6	16	20	37	70	177	457	321	1261	2414
		F	33	5	4	5	6	17	40	99	229	186	1248	1871
		T	76	11	10	21	26	55	109	276	686	506	2509	4285
	NET MIGRATION	M	196	186	57	-10	226	479	129	139	33	4	29	1469
		F	182	178	66	35	265	458	133	126	33	11	45	1531
		T	378	364	123	24	490	937	262	265	66	15	74	3000

SIMCOE COUNTY POPULATION CENTROID

POPULATION CENTROID IS LOCATED:

0.39 KMS WEST AND 0.45 KMS SOUTH OF MIDHURST IN 1976.

0.89 KMS WEST AND 1.13 KMS SOUTH OF MIDHURST IN 1981.

0.91 KMS WEST AND 1.69 KMS SOUTH OF MIDHURST IN 1986.

0.93 KMS WEST AND 2.20 KMS SOUTH OF MIDHURST IN 1991.

0.95 KMS WEST AND 2.67 KMS SOUTH OF MIDHURST IN 1996.

0.96 KMS WEST AND 3.09 KMS SOUTH OF MIDHURST IN 2001.

0.96 KMS WEST AND 3.43 KMS SOUTH OF MIDHURST IN 2006.

0.96 KMS WEST AND 3.72 KMS SOUTH OF MIDHURST IN 2011.

0.96 KMS WEST AND 3.96 KMS SOUTH OF MIDHURST IN 2016.

0.96 KMS WEST AND 4.19 KMS SOUTH OF MIDHURST IN 2021.

0.94 KMS WEST AND 4.41 KMS SOUTH OF MIDHURST IN 2026.

5. Forecasts of Post-Secondary Enrolment

From the projected populations we can derive enrolment forecasts by assuming 'participation rates'* appropriate to each program or group of programs. Because we calculated population by single year of age and sex, we were able to utilize participation rates defined at that level of detail; whereas most published rates are referenced to the 18-24 age group.

For university programs, Statistics Canada supplied us with tabulations from the University Student Information System (USIS) for the years 1972 through 1977. The USIS files contain all students registered in Canadian universities as of a common Fall date: December 1 in years 1972 - 1975; November 1 thereafter. However the student's home county is recorded only by universities in the same province, so that the tables supplied to us include only students in Ontario universities. The student's home county is recorded by the Ontario Universities' Application Centre (OUAC) for applicants entering full-time undergraduate study; and by the university for all other students, and the universities have not always been as diligent as might be desireable. Consequently the participation rates for part-time studies may be somewhat understated.

For full-time programs of the Colleges of Applied Arts and Technology, the College Affairs Branch of the Ministry of Colleges and Universities maintains an every-student file of data collected by each College.

* 'participation rate' is dimensionally the same as fertility or mortality rates, i.e. persons participating per 1,000 persons in a group.

Tabulations are produced each year where students are grouped by high school attended and College attended. Rather than figures for age of student, we obtained details of the last grade attended in high school and whether the transition to a CAAT program was direct or delayed. Consequently the 'participation rates' are currently here defined in terms of new entrants to CAAT programs.

We obtained equivalent data from OUAC for applicants and registrants entering Ontario universities from Simcoe County high schools. Consequently we were able to compare flows from those high schools to full-time study in CAATs and in universities, for the past few years.

The flows from the high schools can be compared to flows within the school grades using enrolment data supplied by the Ministry of Education. Projecting enrolments at the county and provincial level by the 'cohort ratio' method of projecting educational program enrolments is a standard procedure. It assumes that the change in group size as students move from one year level to the next is nearly constant (or at least that its trend is predictable), so that the size of a group N years in the future can be estimated from a current group size.

5.1 Short-term forecasts

Figure 5-1 shows how cohort ratios in Simcoe County high schools have behaved since 1969. Each horizontal

line is a grade level, and the top line (100%0 is the group in grade 9. The next line down is the fraction which the following year's grade 10 is of grade 9, and so on. The lines for the 1975 grade 9 are incomplete because that cohort had only reached grade 11 by 1977, the last year for which we have enrolment data. It is clear that, although there has been some variation in the ratios of Grades 12, 11 and 10 to grade 9, the ratio of grade 13 and of year 1 university have remained fairly stable (but the latter has trended downward since 1975). Consequently we can make a rough estimate of university intake for up to five years from 1977 from our knowledge of the grade 9 enrolment to that date: the range (see figure 5-2) appears to be 400-500 per year (about 5% of the 19-year age group).*

Students enter CAATs from both grades 12 and 13, so the flows from each level must be separately calculated. The total of the two components appears (figure 5-4) to be in the range 450-550 per year.

Extending the horizon by looking further down the grade levels, we find a warning of future reductions. Figures 5-3 and 5-4 are enrolments plotted by grade level in 1971 and 1977 respectively. In 1971, enrolment was relatively flat in the elementary grades, peaked in grade 9, and declined rapidly to grade 13. In 1977, a pronounced dip is observed in the middle elementary grades, (about 400 students below 1971 levels in grade 4), a dip which will reach the universities and colleges in the mid-1980's.

* graphs for comparison of other countries with Simcoe County are to be found in Appendix V

As shown in figure 5-2 the total flow of students to Ontario universities and CAATs has been stable at around 850-880 since 1974, but the proportion attending each type of institution has varied. Attendance at CAAT's has increased since 1975, matched by a decrease in university attendance; and in 1977, CAAT entrants exceeded university entrants for the first time. In 1978, flows to both types of programs increased and exceeded one thousand for the first time.

5-2 Long-term Forecasts for Simcoe County participation in Ontario Post-secondary Programs

The computer program which prints out a population projection on paper also writes on magnetic tape a record for each fifth projection-year of the calculated values of population in each subdivision and the county total, by age and sex. This tape then becomes part of the input data, along with participation rates (by age and sex) for the activity in question, to the program which computes enrolment forecasts. Thus it is not necessary to recompute a population projection for each trial of a set of participation rates.*

The participation rates used in this initial example were based on 1976 figures, assumed constant throughout the forecast period so that forecasts strictly follow changes in age and sex distributions in the population projection.

For purposes of studying spatial distribution of

* copies of the types are available at cost of reproduction, for those who wish to try their own forecasts.

demand, the calculation of enrolments in post-secondary programs was applied to each census subdivision and the results printed out at five-year intervals. Tables 5-6 and 5-7 give the county summaries for enrolment in universities, and new CAAT entrants from Simcoe County high schools, respectively. The detail of age and sex distribution reflects the differences in data available for estimating participation rates.

As plotted in figure 5-6, the total university enrolment shows an increase to a plateau at 1981-1986, then a continous rise to the end of the period. However the age mix, and mix of program enrolments, changes substantially over 28, mostly in part-time study, rises to become almost one-third of the total enrolment in 2011. Full-time enrolments are sensitive to the dip in the 18-24 age groups in the 1980's and early 1990's.

In figure 5-8, which shows the projected intake to Ontario CAATs from Simcoe County high schools, the projected drop-off of 18 and 19 year-olds in the 1980's is shown more clearly. This pattern agrees generally with Statistics Canada and CODE projections, in the sense that all project a peak to be followed by a hollow. However, the timing of the maxima and minima in each projection depends on the initial population and assumptions about the size, age and sex distribution of net migration. Because diploma programs are of somewhat shorter duration than degree programs (one, two and three years compared to three, four or five years), CAAT total enrolment tends to follow the intake pattern fairly closely. Consequently, figure 5-8 indicates that Simcoe

County's contribution to CAAT enrolment may bottom sometime in the late 1980's, and begin to recover while the university enrolment continues to decline (slightly) until the early 1990's.

5.3 Potential Enrolment in a full-time degree program in Simcoe County

Currently, persons wishing to study for a university degree full-time must go outside the county. Part-time study in the county is possible through programs offered by Wilfrid Laurier University, mainly in a six-week summer day session but also in Fall/Winter session evening courses at various locations. Also, Glendon College of York University has offered an average of two courses in summer and Fall/Winter sessions to the francophone community in and around Penetang. The two institutions accept each other's credits and co-operate through the committee which initiated this study. A proposal to develop a full-time day program in Orillia, to be called Simcoe College, has been actively supported there for more than ten years; and Wilfrid Laurier University sought and was awarded in 1978 the responsibility for its development. An objective of this study has been to estimate the potential enrolment, and hence the viability, of a full-time degree program.

In these times of financial stringency in post-secondary education, brought about in part by general economic conditions, and in part by shifts in government priorities which in turn are influenced by popular desires and by population forecasts, the prior question

is whether existing post-secondary programs serve the people of Simcoe County as well as other parts of our province are served. The answer appears to be a qualified affirmative on an 'average basis', but negative for many individuals.

On the affirmative side, the fraction of high school students entering university (see figure 5-1, 5-2 and Appendix V) are in the same range as other similar jurisdictions: 'similar' in the sense of fraction of urban middle class and present convenient access to university campuses. These are really two parts of a feedback loop: generally, post-secondary students are drawn from the upper middle and upwardly-mobile lower classes, and those groups tend to move themselves to places where their children will have access to desired programs. (The same phenomenon is observed at elementary and secondary levels.) However the time delays in changing social mixes are measured in decades, and other economic conditions must also be satisfied. We hope to study such feedback effects later.

The reaction of a population to readier access to a university campus may be measured in years and the magnitude of the immediate effect is, roughly, indicated by the last graph in Appendix V: the fraction of Simcoe County students leaving high school and entering university might rise from about 32% to about 42% (Regional Municipality of York), or in absolute numbers (1976) about 150 per year. This figure would be subject to the same kind of fluctuation as shown in figure 5-8: it is already on a decline which will hit bottom in 1986. Proportionately, the 150 in 1976

would drop to about 120 in 1978.

There are, of course, other factors to be considered: the attraction of additional students from Muskoka, Parry Sound, Victoria County and so on; as against the 'counter-attraction' of CAAT programs and of other universities. For example, Georgian College draws only about 30% of its enrolment from Simcoe County, and only about half of the total Simcoe County enrolment in CAATs. As we have already remarked in section 5-2, flows to CAATs are about the same as flows to universities.

Let us suppose, on the basis of Georgian College experience, that the factors tending to increase intake to an Orillia program were to balance those tending to decrease it. Our conclusion, then, is that academic program planners should be basing their planning on a 'worst case' intake of between 125 and 150 per year for the next ten years at least, to a full-time degree program offered in Simcoe County.

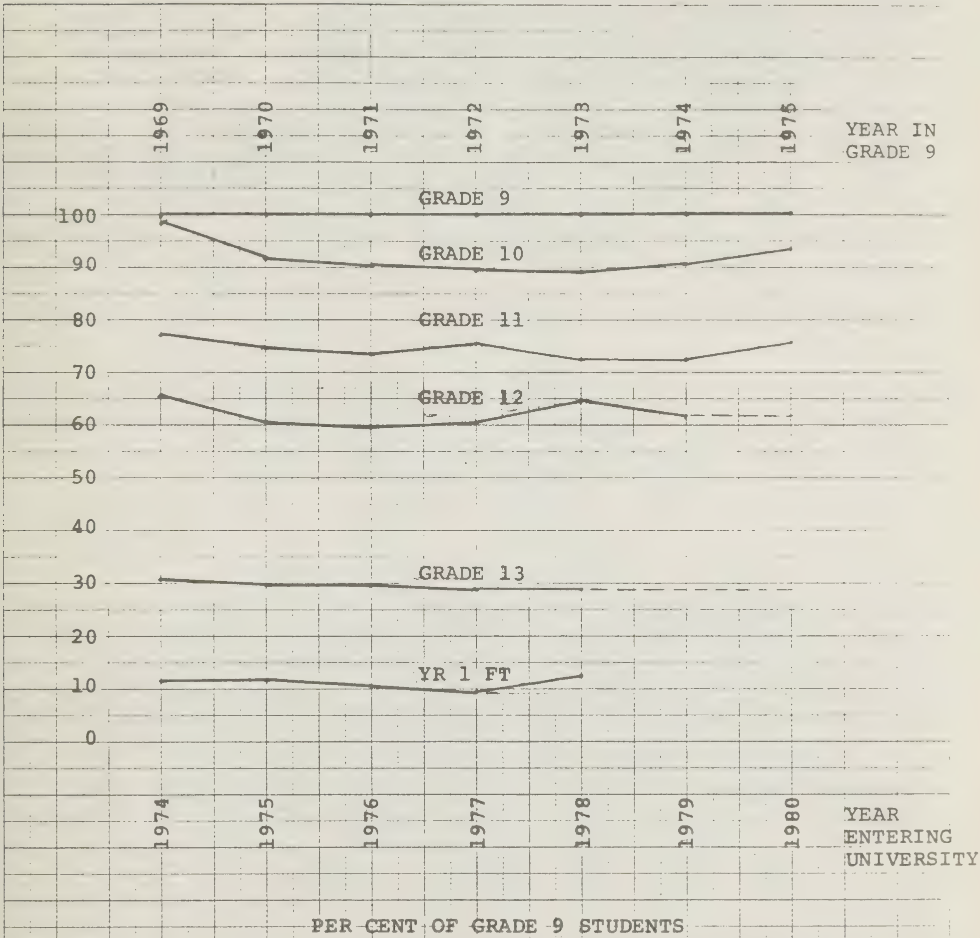
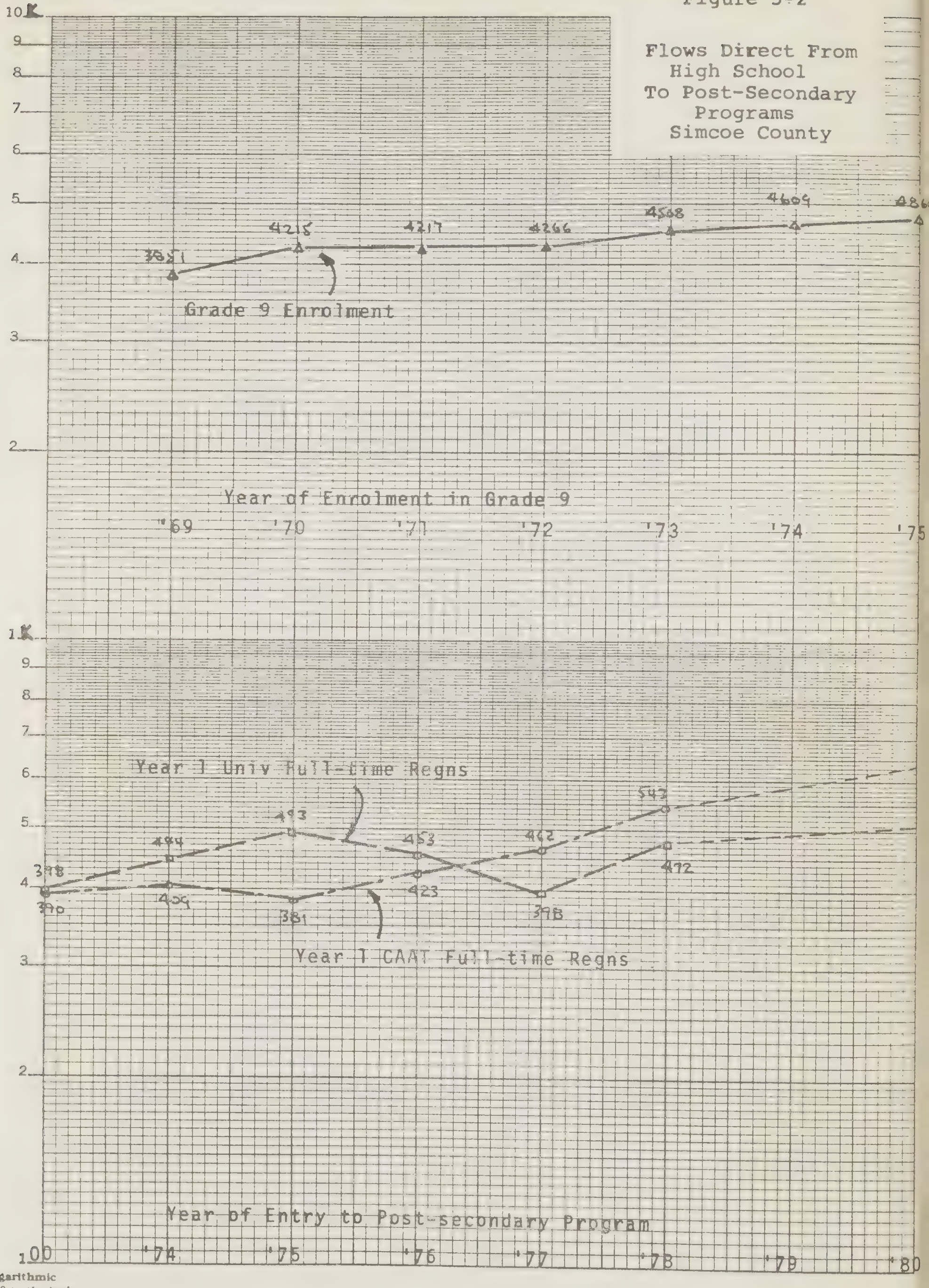


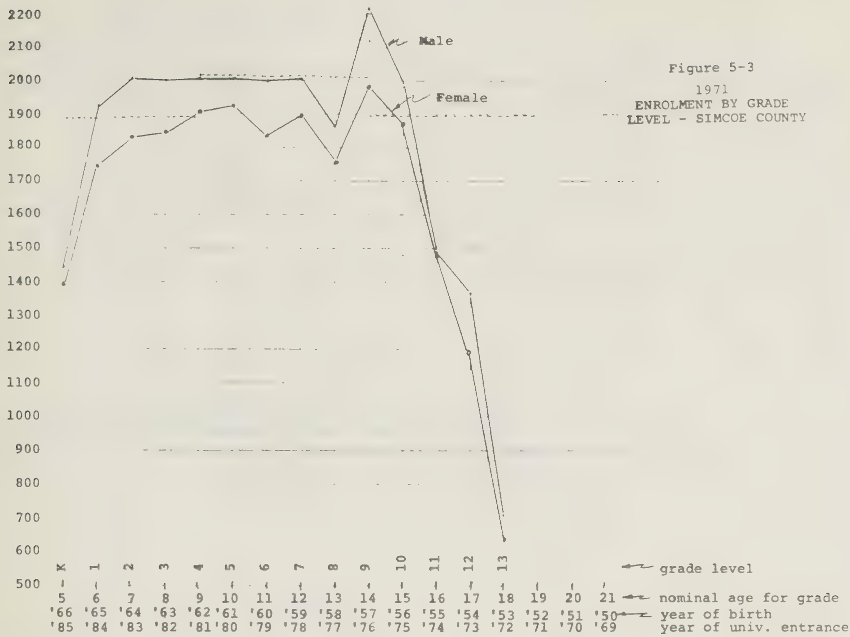
Figure 5-1

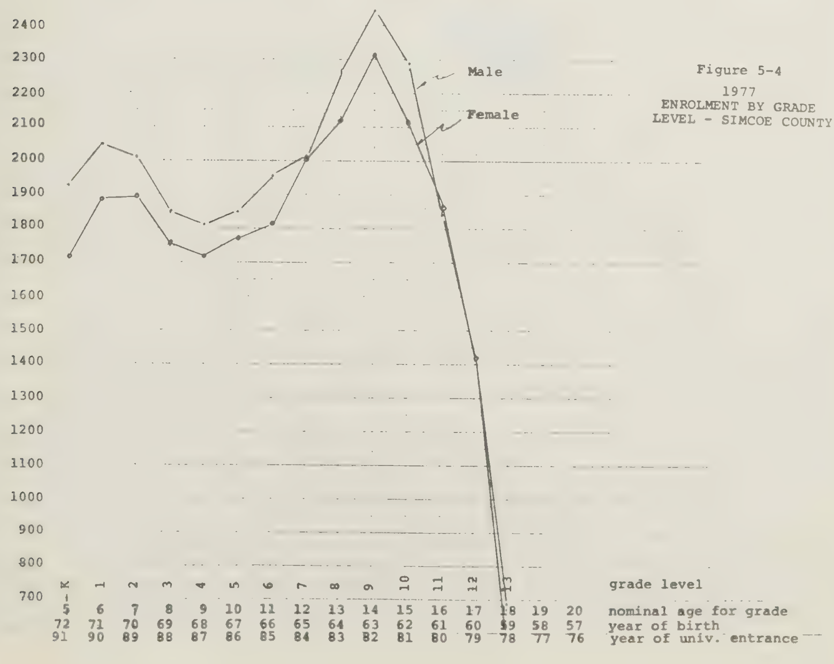
SIMCOE COUNTY
ATTRITION OF COHORTS
FROM GR 9 - YEAR I UNIVERSITY

Figure 5-2



Flows Direct From High School To Post-Secondary Programs Simcoe County


Male
Female
Figure 5-3
1971
ENROLMENT BY GRADE
LEVEL - SIMCOE COUNTY
grade level
nominal age for grade
year of birth
year of univ. entrance


Male
Female
Figure 5-4
1977
ENROLMENT BY GRADE
LEVEL - SIMCOE COUNTY
grade level
nominal age for grade
year of birth
year of univ. entrance

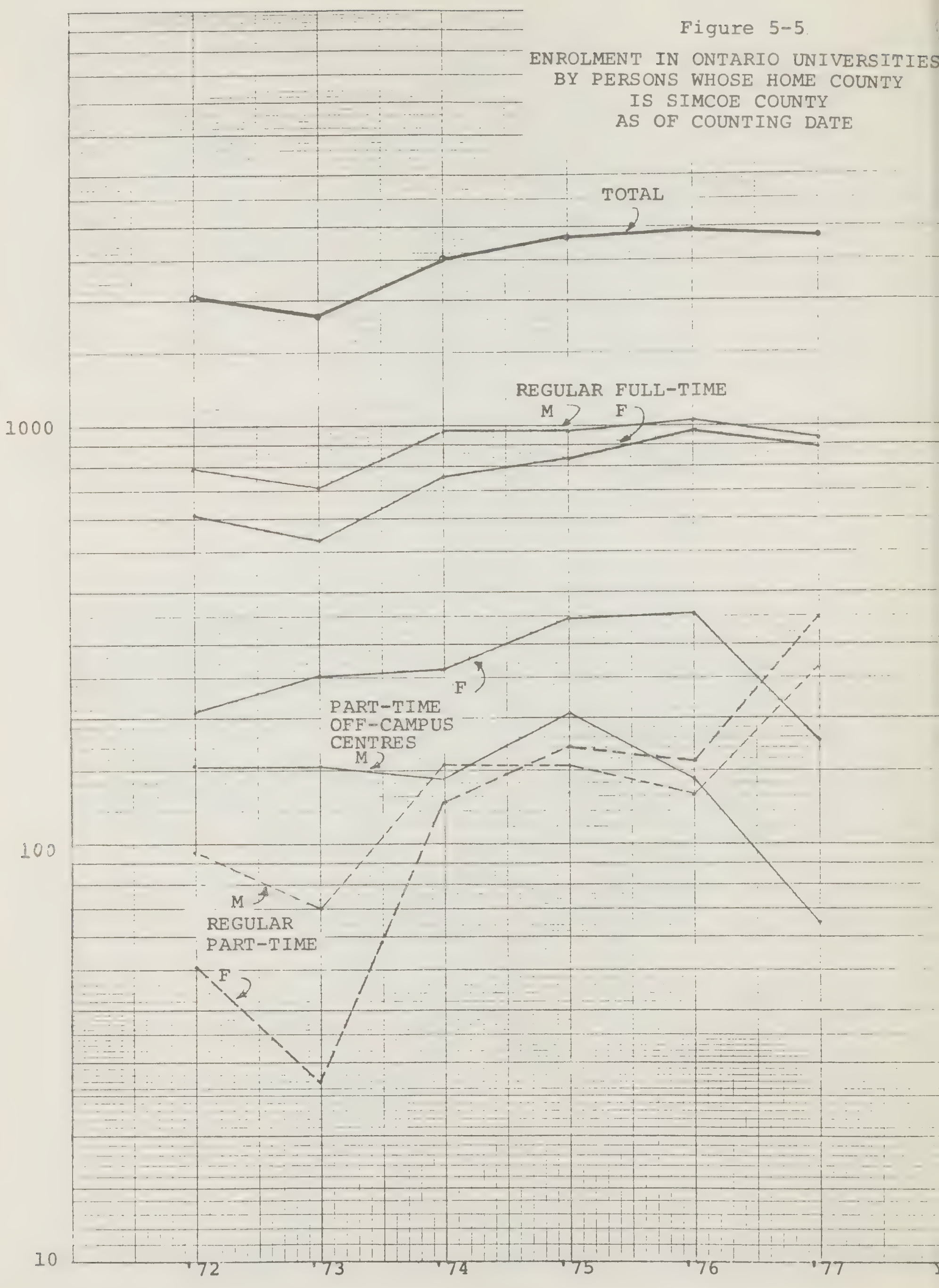


Figure 5-5
ENROLMENT IN ONTARIO UNIVERSITIES
BY PERSONS WHOSE HOME COUNTY
IS SIMCOE COUNTY
AS OF COUNTING DATE
TOTAL
REGULAR FULL-TIME
M
F
F
PART-TIME
OFF-CAMPUS
CENTRES
M
M
REGULAR
PART-TIME
F
1000
100
10
'72
'73
'74
'75
'76
'77

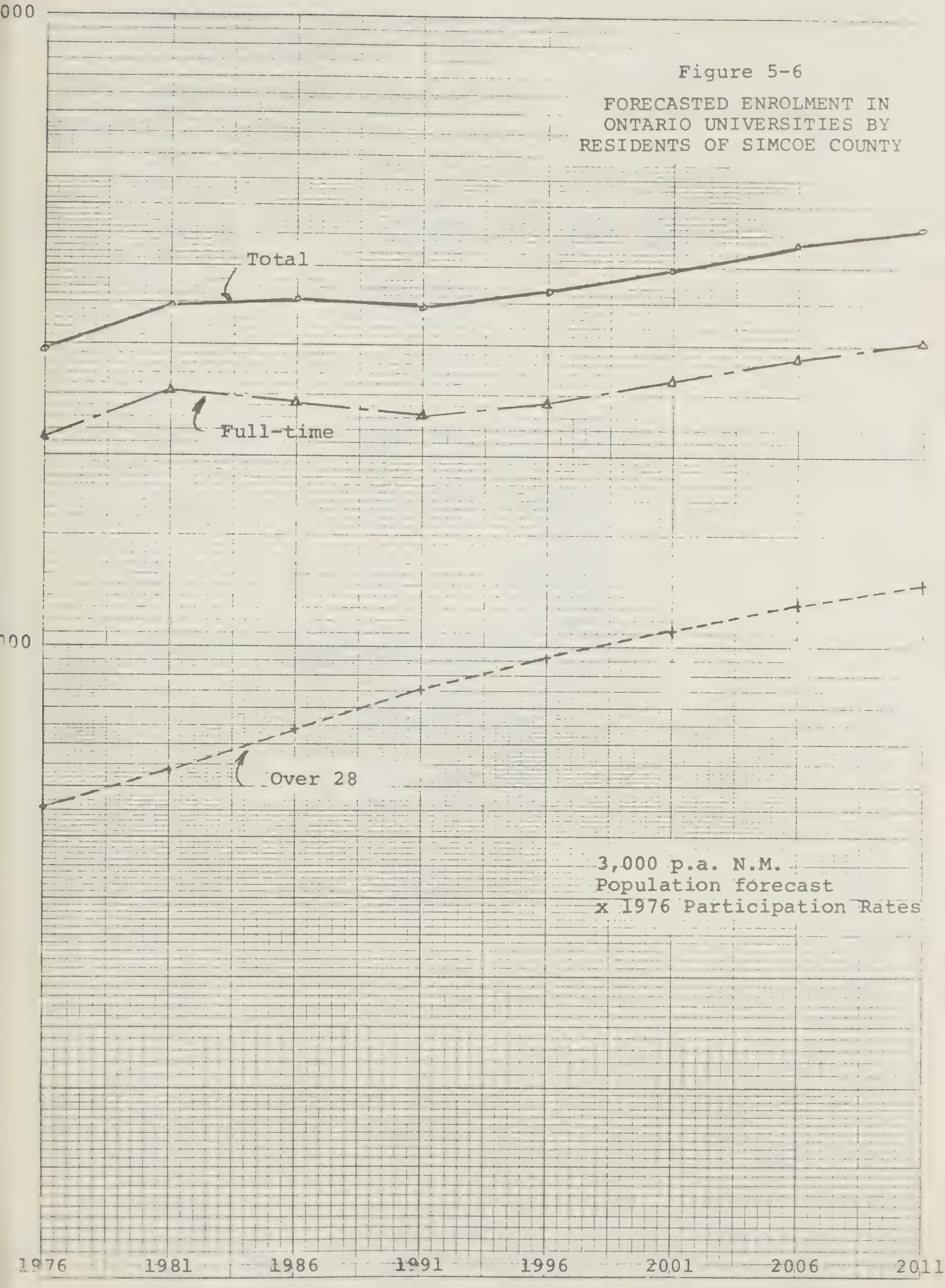


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Figure 5-6
FORECASTED ENROLMENT IN ONTARIO UNIVERSITIES BY RESIDENTS OF SIMCOE COUNTY
Total
Full-time
Over 28
3,000 p.a. N.M.
Population forecast
x 1976 Participation Rates
1976
1981
1986
1991
1996
2001
2006
2011

PROJECTED ENROLMENT IN ONTARIO UNIVERSITIES FROM SI   E COUNTY

YEAR		SEX	UNDER 18	18	19	20	21	22	23	24	25	26	27	28	OVER 28	NR	TOTAL
2016	FULL-TIME	M	1	38	236	333	315	278	125	97	37	26	17	14	87	12	1617
		F	0	75	325	349	286	154	80	24	30	16	5	17	55	12	1427
		T	1	113	561	682	601	432	205	121	67	42	23	31	141	24	3044
	PART-TIME	M	0	0	0	3	16	16	13	8	34	33	14	30	393	6	565
		F	1	0	0	10	16	25	21	19	40	53	49	53	813	29	1131
		T	1	0	0	13	32	42	35	26	74	86	63	83	1206	35	1695
	TOTAL	M	1	38	236	336	331	294	139	105	71	58	31	44	480	17	2182
		F	1	75	325	359	302	180	101	42	70	69	54	70	868	41	2558
		T	3	113	561	695	633	474	240	147	141	128	85	114	1347	58	4740
2021	FULL-TIME	M	1	39	244	342	322	282	127	98	37	26	13	14	92	12	1654
		F	0	78	335	359	291	157	81	24	30	16	5	17	58	13	1464
		T	1	117	579	701	613	439	207	122	67	42	23	31	150	25	3119
	PART-TIME	M	0	0	0	3	16	16	14	8	34	33	14	30	416	6	590
		F	1	0	0	10	16	26	22	19	40	54	49	54	871	30	1192
		T	1	0	0	13	33	42	35	27	74	86	63	84	1286	36	1782
	TOTAL	M	1	39	244	345	338	290	140	106	71	59	32	45	508	18	2244
		F.	1	78	335	369	308	183	102	43	70	70	55	70	929	43	2657
		T	3	117	579	714	646	482	243	148	141	128	85	115	1436	62	4901
2026	FULL-TIME	M	2	41	257	359	337	294	131	101	38	26	18	14	96	13	1726
		F	0	82	352	376	305	163	83	24	30	16	5	17	62	14	1531
		T	2	123	609	736	642	457	215	125	69	43	23	31	158	26	3257
	PART-TIME	M	0	0	0	3	17	17	14	8	35	33	14	31	435	6	613
		F	1	0	0	11	17	27	22	20	41	55	50	54	922	32	1252
		T	1	0	0	14	34	44	37	27	76	88	64	85	1356	38	1865
	TOTAL	M	2	41	257	362	354	311	145	109	73	60	32	45	531	19	2339
		F	1	82	352	387	322	190	106	44	72	71	55	71	984	46	2783
		T	3	123	609	749	676	501	251	153	145	131	87	116	1514	64	5122

Table 5-6

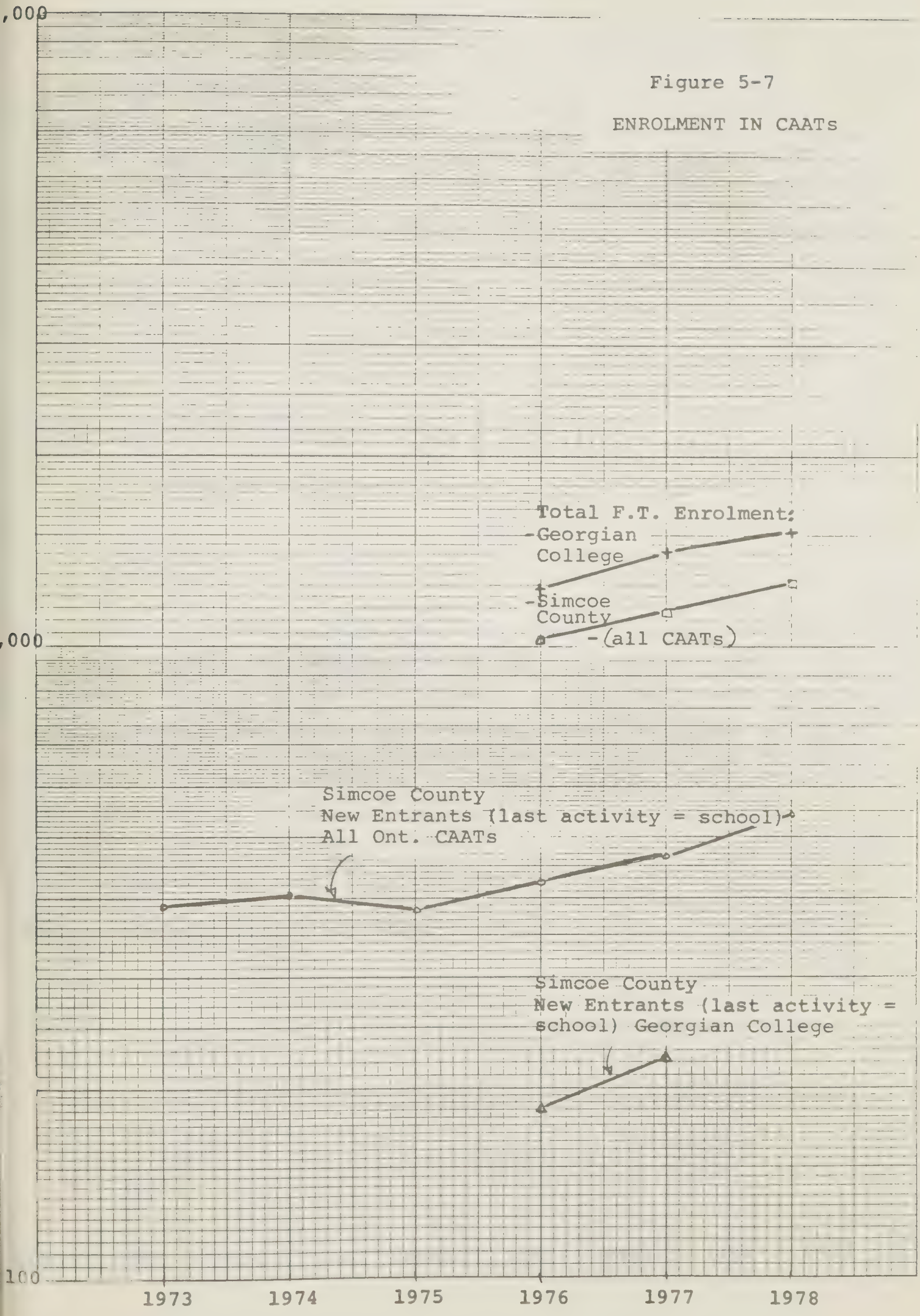
Figure 5-7
ENROLMENT IN CAATs
,000
,000
100
Total F.T. Enrolment:
Georgian College
Simcoe County (all CAATs)
Simcoe County New Entrants (last activity = school) All Ont. CAATs
Simcoe County New Entrants (last activity = school) Georgian College
1973
1974
1975
1976
1977
1978

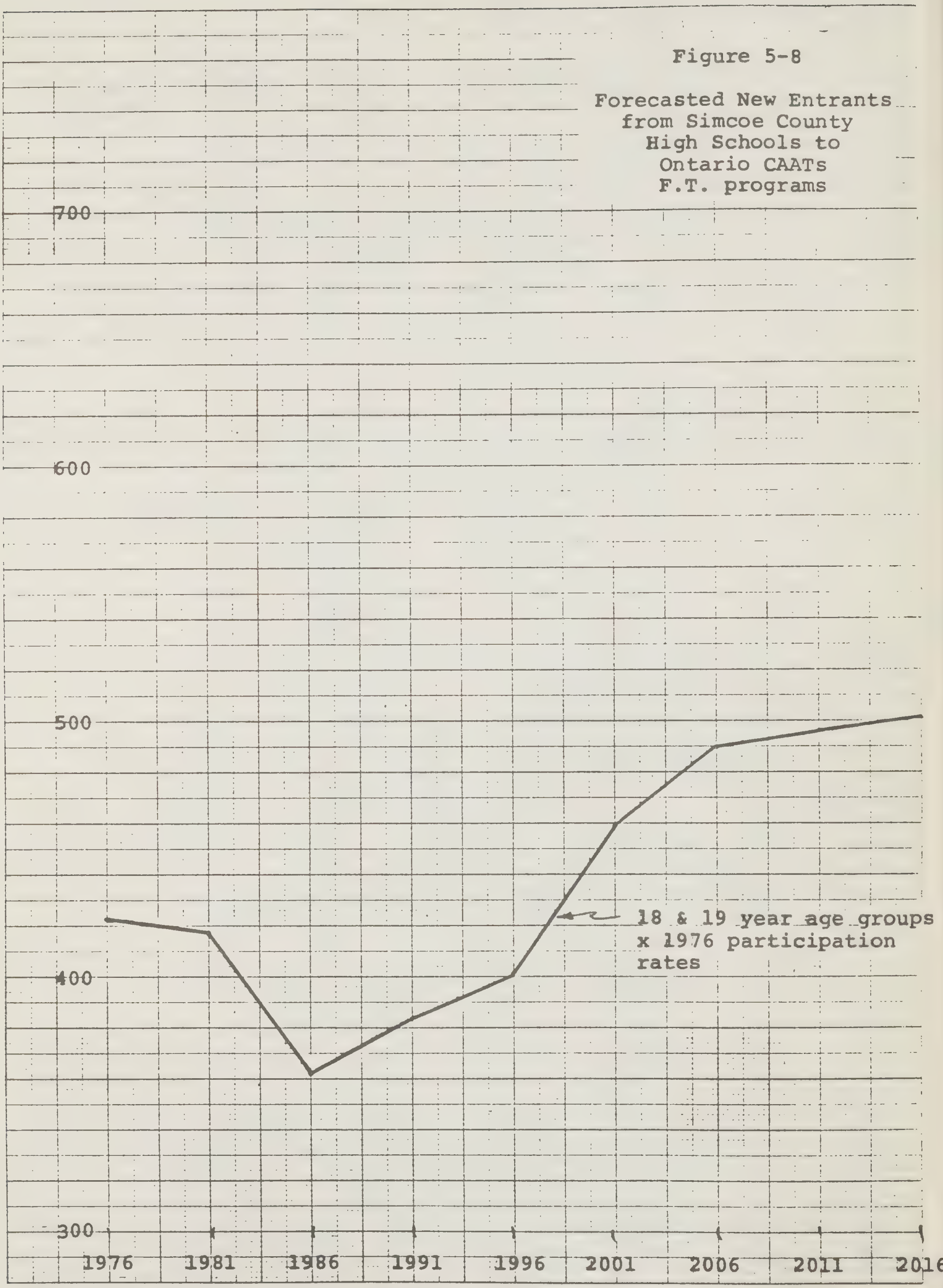
Figure 5-8
Forecasted New Entrants
from Simcoe County
High Schools to
Ontario CAATs
F.T. programs
700
600
500
400
300
1976
1981
1986
1991
1996
2001
2006
2011
2016
18 & 19 year age groups
x 1976 participation
rates

Table 5-7

PROJECTED ENROLMENT IN [illegible]ARIO COLLEGES OF NEW ENTRANTS FR[illegible] [illegible]CONDARY SCHOOLS

FROM SIMCOE COUNTY

AGE	SEX	1976	1981	1986	1991	1996	2001	2006	2011	2016	2021	2026
18	M	124	117	100	105	110	126	134	136	137	143	150
	F	196	197	175	185	195	222	235	239	242	251	264
	T	320	314	275	290	305	348	369	374	379	394	414
19	M	30	28	24	25	26	30	32	33	33	34	36
	F	73	73	64	67	70	81	87	89	90	93	97
	T	103	102	88	92	96	111	120	122	123	127	133
TOTAL	M	154	145	123	130	136	156	166	168	170	177	186
	F	269	271	239	252	265	303	323	327	331	343	361
	T	423	416	362	383	402	459	489	496	502	520	547

6.0 Conclusions

The results of this project are preliminary and demonstrative, rather than conclusive. We have shown what may happen in Simcoe County if trends during the period 1971-1976 were to continue for fifty years. On the one hand, no one really expects such constancy; but on the other hand, we now have a 'base line' against which to compare the effects of such changes as may be postulated. It appears quite clear that many changes, levered by government control over land use and services, will indeed be necessary to distribute growth to those municipalities which can absorb it and away from those who are likely to be 'saturated' if the trends continue.

The computer programming is 'general' in the sense that other counties, or indeed the province as a whole, could be treated by it with appropriate redefinition of input data - that is, of geographical divisions and their characteristics, and of participation rates for social services.

The projections indicate that enrolments in post-secondary programs will, if participation rates do not change, grow slowly in the next five years and then drop for a further five years. The lowest year, taking account of the length of degree and diploma programs, will probably be 1987-88. There should be ample advance warning from high school enrolments.

Participation rates for Simcoe County, somewhat lower than other jurisdictions with higher numbers of urban middle class or handier access to a campus, but

nevertheless 'about average', are not constant. Like the weather, there is more discussion than understanding of the forces which alter such rates. One may speculate, however, that the increasing variety of programs will bring a mutual reinforcement, and in turn strengthen offerings in the County.

6.1 Loose Ends

Further work on this project would help to make the projections and forecasts more 'realistic', particularly in the 1-10 year and 25-50 year ranges, and for individual subdivisions:

1) The 1976 starting population figures should be single-year of age, by sex, instead of five-year groups. (Unfortunately, Statistics Canada rounds all such figures to the nearest 5 so that the totals do not agree with published totals. We chose to stick with five-year groups.)

2) Fertility rates should be time dependent. Single-year of age fertility and mortality rates could be used.

3) A number of scenarios of net migration should be attempted until a development plan is formulated in which capacities of individual census subdivisions are not exceeded. The practicality of such a plan may then be assessed.

4) More use of USIS and OCIS should be made to

improve our definitions of participation rates for various kinds of post-secondary programs. Provision should be made for time-dependent participation rates.

5) More comparisions should be drawn between Simcoe County and other areas, in matters such as high school cohort ratios and flows to CAATs and Universities. (See Appendix V)

6) The age-and sex-distributions of net migrations and in each of the S-curve segments should be based on local data. (This requires single-year-of-age populations interpolated for intercensal years at the county level.)

Other steps could make the Program more useful:

1) Further development of computer-mapping and of programs to compute distance/time quantities to support siting choices, services routing, etc.

2) Definition of participation rates for community services, perhaps responsive to rates of growth or other indicators of social stress[15].

3) The population-projection program could be revised to redistribute shares of net migration and stage-of-develpment status when subdivisions approach their capacity. This could be arranged either 'interactively' (the user could enter changes during the process of a calculation) or by a built-in algorithm.

References & Bibliography

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'The Missing Pupils in the Schools of Ontario Today and Tommorrow - A Statement of Conditions, Causes, and Issues'
- Interim report, Commission on Declining School Enrolments in Ontario ('CODE'); February 28, 1978.

(2) Tatham, Elaine L. and Finch, Harold L.
'A Computer Model for Demographic Projections in Educational Planning'
Johnson County Community College, Overland Park, Kansas
- presented to Conference on Population Projections and Related Futures, OISE, November 19, 1974.

(3) ----,
'Demographic Planning Workshop, October 11 - 13, 1973; conducted at Sheridan College of Applied Arts and Technology, Oakville, Ontario.

(4) Ontario Statistics 1977, Volume 1, Social Series.

(5) Simcoe Georgian Task Force
'Simcoe Georgian Development Strategy'
Ministry of Treasury, Economics, and Intergovernmental Affairs, Ontario, February 1976.

(6) Central Statistical Services, TEIGA
'Ontario Population Estimates by Planning Regions and Counties, June 1972 to June 1976'

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'Ontario Short-Term Population Projections 1975-1986' September 1976.

(8) Central Statistical Services, TEIGA
'Ontario Population Trends, A Review of Implications' December 1976.

(9) Statistics Canada Cat #81-229 Annual 'Education in Canada'

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'GRDSR: Facts by Small Areas - The Geographically Referenced Data Storage and Retrieval System - An Introcution'
June 1972.

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'Advance Statistics of Education'.

(12) Statistics Canada #92-830
'1976 Census of Canada: Supplementary Bulletins: Geographic and Demographic - Population of Unincorporated Places - Canada'
May 1978.

(13) Statistics Canada #92-831
'1976 Census of Canada: Population, Land Use, and Population Density for Census Divisions and Subdivisions'.

(14) Statistics Canada #96-806
'1976 Census of Canada - Agriculture, Ontario'

(15) Olyan, Sydney, and Pennock, Michael
'The South Simcoe Study' (mimeo), 1977(?).

(16) SYMAP users Reference Manual - Harvard University (with additions and amendments - Institute for Behavioural Research, York University).

(17) Tiny-Tay Peninsula Planning Board
'The Peninsula Plan' March 1978 Draft.

(18) Coates, D.E. and Couchman, J.
'A Review of Tiny and Tay Townships, Simcoe County, Ontario with Special Emphasis on Franco-Ontarians' prepared for Georgian College of Applied Arts & Technology, August 1977.

Other Data Sources

Computer-readable

S-1 University Student Information System - Statistics Canada (1 record per student in Fall Term; new file each year)

S-2 Ontario Colleges Information System - Ministry of Colleges and Universities, Ontario (1 record per student in Fall Term; new each year)

S-3 School Enrolment History File - Ministry of Education, Ontario (1 record per school; 1 record for each year; accumulative)

S-4 Applications and Registrations by Ontario secondary school students in Ontario universities (1 record per school per year, 1973-1977) (created for this study by Ontario Universities Application Centre)

S-5 1971 Census - Enumeration Area in Simcoe County (1 record per EA; selected from files assembled by Institute for Behavioural Research, York University, from Statistics Canada files)

S-6 County and Township boundaries of Simcoe County in UTM grid (for SYMAP input)

Printed

S-7 New entrants to full-time study at Ontario CAATs by latest activity and pervious level of education, by secondary school

S-8 Contents of 1971 EA records (see 5 above)

S-9 Enrolment in Grade 13, Applications and Registrations in Year 1 FT study in Ontario Universities, by secondary school (see 3 and 4 above) 1973-1977.

S-10 Enrolments by grade level and sex, 1969-1977, each school in Simcoe County (and total) - (see 3 above).

Maps

M-1 Department of Energy, Mines, and Resources Series A-501

41A	1:250,000	:	Bruce (Edition 3)
31D	1:250,000	:	Lake Simcoe (Edition 5)
30M	1:250,000	:	Toronto (Edition 2)

M-2 Ministry of Transportation and Communications, Ontario

MTC30701	1:250,000	Simcoe County
	1:63,360	Simcoe County, North-west portion
	1:63,360	Simcoe County, North-east portion
	1:63,360	Simcoe County, South Portion

M-3 Ministry of Treasury, Economics, and Intergovernmental Affairs, Ontario

1:253,440	Toronto-Centred Region Predominant Land Use 1971
1:253,440	Georgian Bay Development Region Predominant Land Use 1971

M-4 TEIGA: Southern Ontario - Semiannual

1:1,506,880 - Zoning
- Official Plans
- Planning Areas
- Minister's Orders
- Committees

M-5 Ontario Geological Survey

Map 1976-6 Ontario Mineral Potential - Lake Simcoe Sheet

M-6 1971 Census - Enumeration Area Boundaries Statistics Canada

M-7 Ministry of Natural Resources, Ontario

31D 1:250,000 Land classification - Lake Simcoe (1976

Interviews and Personal Communications

I-1 Joe McReynolds, Regional Director, Ministry of Community and Social Services, Barrie, Ontario.

I-2 Miss B. Livingstone, Office of the Registrar-General, Queen's Park, Ontario.

I-3 John Perry, Economic Development Branch, TEIGA.

I-4 Mike Ufford, Tiny-Tay Peninsula Planning Board (by telephone).

APPENDIX I

POPULATION PROJECTION FOR SIMCOE COUNTY:

CASE WITH ZERO NET MIGRATION

YEAR	SEX	0-4	5-9	10-14	15-19	20-24	25-34	35-44	45-54	55-64	65-69	70+	TOTAL	POP.DENSITY PER SQ KM	
1976	M	8515	8945	10950	11485	8915	16365	11795	10450	8885	3875	5795	105975		
	F	8120	8520	10125	10120	8670	15970	10980	10595	9810	4055	7745	104710	ALL LAND	43.51
	T	16635	17465	21075	21605	17585	32335	22775	21045	18695	7930	13540	210685	AGR/RES LAND	72.49
1981	M	8030	8454	8923	10902	11399	16977	13935	10821	8994	3866	6340	108651		
	F	7733	8081	8503	10103	10094	16601	13394	10617	9842	4580	9545	109091	ALL LAND	44.96
	T	15763	16545	17426	21005	21492	33578	27329	21439	18835	8446	15885	217742	AGR/RES LAND	74.92
1986	M	8588	7982	8442	8882	10820	20106	16070	11280	9273	3534	6666	111643		
	F	8272	7694	8063	8484	10076	18679	15905	10697	9974	4384	11405	113535	ALL LAND	46.50
	T	16860	15676	16505	17366	20896	38786	31975	21977	19247	7918	18072	225178	AGR/RES LAND	77.48
1991	M	8620	8537	7961	8404	8814	21983	16673	13353	9621	3926	6620	114513		
	F	8302	8231	7677	8044	8461	20078	16433	13068	9998	4601	12694	117587	ALL LAND	47.93
	T	16922	16759	15639	16448	17275	42062	33106	26421	19619	8527	19314	232100	AGR/RES LAND	79.86
1996	M	8159	8570	8516	7925	8339	19420	19754	15375	10014	3791	6884	116748		
	F	7859	8262	8214	7660	8022	18449	18494	15407	10072	4512	13889	120840	ALL LAND	49.06
	T	16018	16832	16730	15585	16361	37869	38249	30783	20085	8303	20773	237587	AGR/RES LAND	81.75
2001	M	7640	8112	8548	8477	7864	16969	21592	15961	11912	4193	6944	118211		
	F	7359	7821	8245	8195	7638	16402	19877	16025	12334	4618	14748	123263	ALL LAND	49.87
	T	14999	15933	16793	16673	15502	33371	41469	31986	24247	8811	21692	241474	AGR/RES LAND	83.09
2006	M	7391	7595	8090	8509	8412	16028	19067	18932	13659	4139	7279	119102		
	F	7119	7323	7805	8226	8173	15583	18259	18041	14514	4583	15512	125135	ALL LAND	50.44
	T	14510	14917	15895	16735	16585	31611	37326	36974	28173	8721	22790	244237	AGR/RES LAND	84.04
2011	M	7387	7347	7574	8053	8443	16103	16662	20661	14196	5703	7440	119569		
	F	7113	7083	7306	7786	8203	15734	16234	19384	15105	6644	16079	126672	ALL LAND	50.85
	T	14500	14430	14881	15839	16646	31837	32895	40044	29301	12347	23519	246241	AGR/RES LAND	84.73
2016	M	7351	7343	7327	7539	7991	16675	15738	18228	16880	5665	8697	119433		
	F	7080	7078	7067	7289	7764	16297	15422	17794	17016	6621	18298	127726	ALL LAND	51.04
	T	14432	14420	14395	14828	15755	32971	31160	36022	33897	12285	26994	247159	AGR/RES LAND	85.04
2021	M	7135	7308	7324	7294	7480	16256	15815	15939	18348	6128	9424	118451		
	F	6872	7045	7062	7050	7267	15889	15574	15824	18265	7173	20013	128036	ALL LAND	50.90
	T	14007	14353	14385	14344	14748	32145	31389	31764	36614	13301	29437	246486	AGR/RES LAND	84.81
2026	M	6835	7093	7289	7290	7236	15302	16375	15055	16152	7845	10204	116675		
	F	6582	6638	7029	7045	7030	14957	16130	15033	15749	8355	21831	127579	ALL LAND	50.44
	T	13417	13731	14318	14335	14266	30259	32504	30088	32001	16200	32035	244254	AGR/RES LAND	84.04

BIRTHS, DEATHS AND NET MIGRATION : MCOE COUNTY Zero Net Migration

YEAR		SEX	0-4	5-9	10-14	15-19	20-24	25-34	35-44	45-54	55-64	65-69	70+	TOTAL	
1977	BIRTHS BY AGE OF MOTHER	M	0	0	0	188	513	793	77	0	0	0	0	1571	
		F	0	0	0	181	493	762	74	0	0	0	0	1510	
		T	0	0	0	369	1006	1555	151	0	0	0	0	3081	
	DEATHS	M	27	4	4	14	14	21	29	69	153	127	587	1050	net = 1400
		F	21	3	3	4	4	9	15	38	81	68	385	631	
		T	48	7	7	18	18	30	44	107	234	195	973	1681	
	NET MIGRATION	M	0	0	0	0	0	0	0	0	0	0	0	0	
		F	0	0	0	0	0	0	0	0	0	0	0	0	
		T	0	0	0	0	0	0	0	0	0	0	0	0	
1982	BIRTHS BY AGE OF MOTHER	M	0	0	0	182	578	850	99	0	0	0	0	1709	
		F	0	0	0	175	555	816	95	0	0	0	0	1642	
		T	0	0	0	357	1133	1666	194	0	0	0	0	3351	
	DEATHS	M	27	4	4	13	17	22	33	71	153	125	639	1108	NET = 1514
		F	20	3	3	4	5	10	18	38	81	75	473	729	
		T	47	6	6	17	22	32	50	109	235	200	1112	1837	
	NET MIGRATION	M	0	0	0	0	0	0	0	0	0	0	0	0	
		F	0	0	0	0	0	0	0	0	0	0	0	0	
		T	0	0	0	0	0	0	0	0	0	0	0	0	
1987	BIRTHS BY AGE OF MOTHER	M	0	0	0	156	559	950	105	0	0	0	0	1770	
		F	0	0	0	150	537	913	101	0	0	0	0	1701	
		T	0	0	0	307	1095	1864	205	0	0	0	0	3471	net = 1500
	DEATHS	M	28	4	3	11	15	26	38	76	160	118	668	1148	
		F	22	3	2	3	5	11	21	39	83	73	562	822	
		T	50	6	6	14	20	37	60	115	243	191	1230	1971	
	NET MIGRATION	M	0	0	0	0	0	0	0	0	0	0	0	0	
		F	0	0	0	0	0	0	0	0	0	0	0	0	
		T	0	0	0	0	0	0	0	0	0	0	0	0	
1992	BIRTHS BY AGE OF MOTHER	M	0	0	0	147	480	956	114	0	0	0	0	1706	
		F	0	0	0	141	461	928	109	0	0	0	0	1639	
		T	0	0	0	289	941	1893	223	0	0	0	0	3345	
	DEATHS	M	28	4	3	10	13	27	40	87	165	129	666	1171	net = 1279
		F	21	3	2	3	4	11	22	46	83	76	624	895	
		T	49	7	6	13	17	39	62	133	247	204	1290	2066	
	NET MIGRATION	M	0	0	0	0	0	0	0	0	0	0	0	0	
		F	0	0	0	0	0	0	0	0	0	0	0	0	
		T	0	0	0	0	0	0	0	0	0	0	0	[illegible]	

BIRTHS, DEATHS AND [illegible] MIGRATION FOR SIMCOE COUNTY (E[illegible]) NET MIGRATION

YEAR		SEX	0-4	5-9	10-14	15-19	20-24	25-34	35-44	45-54	55-64	65-69	70+	TOTAL	
1997	BIRTHS BY AGE OF MOTHER	M	0	0	0	145	451	865	128	0	0	0	0	1589	
		F	0	0	0	139	434	831	123	0	0	0	0	1527	
		T	0	0	0	284	885	1696	250	0	0	0	0	3115	net = 932
	DEATHS	M	26	4	3	10	12	24	46	102	176	127	690	1220	
		F	20	3	2	3	4	11	25	55	85	75	681	963	
		T	45	7	6	13	16	35	71	157	261	202	1371	2183	
	NET MIGRATION	M	0	0	0	0	0	0	0	0	0	0	0	0	
		F	0	0	0	0	0	0	0	0	0	0	0	0	
		T	0	0	0	0	0	0	0	0	0	0	0	0	
2002	BIRTHS BY AGE OF MOTHER	M	0	0	0	154	445	737	126	0	0	0	0	1513	
		F	0	0	0	148	427	757	122	0	0	0	0	1453	
		T	0	0	0	301	872	1544	248	0	0	0	0	2966	
	DEATHS	M	24	4	3	10	12	21	51	107	203	138	699	1272	
		F	18	3	2	3	4	9	26	58	101	76	722	1024	
		T	43	6	6	13	16	31	77	164	304	214	1421	2295	net = 671
	NET MIGRATION	M	0	0	0	0	0	0	0	0	0	0	0	0	
		F	0	0	0	0	0	0	0	0	0	0	0	0	
		T	0	0	0	0	0	0	0	0	0	0	0	0	
2007	BIRTHS BY AGE OF MOTHER	M	0	0	0	152	471	754	111	0	0	0	0	1498	
		F	0	0	0	146	453	734	107	0	0	0	0	1439	
		T	0	0	0	298	924	1498	218	0	0	0	0	2938	
	DEATHS	M	24	3	3	10	13	20	45	123	236	144	731	1353	
		F	18	2	2	3	4	9	25	64	121	80	759	1087	
		T	42	6	5	13	16	29	70	187	356	225	1489	2440	net = 498
	NET MIGRATION	M	0	0	0	0	0	0	0	0	0	0	0	0	
		F	0	0	0	0	0	0	0	0	0	0	0	0	
		T	0	0	0	0	0	0	0	0	0	0	0	0	
2012	BIRTHS BY AGE OF MOTHER	M	0	0	0	143	466	790	103	0	0	0	0	1502	
		F	0	0	0	137	448	759	99	0	0	0	0	1443	
		T	0	0	0	280	914	1549	201	0	0	0	0	2945	
	DEATHS	M	24	3	3	10	12	21	39	136	247	188	756	1440	
		F	18	2	2	3	4	9	22	69	126	110	793	1158	
		T	42	6	5	12	16	30	61	204	374	298	1549	2598	net = 347
	NET MIGRATION	M	0	0	0	0	0	0	0	0	0	0	0	0	
		F	0	0	0	0	0	0	0	0	0	0	0	0	
		T	0	0	0	0	0	0	0	0	0	0	0	0	

BIRTHS, DEATHS AND NET MIGRATION FOR SIMCOE COUNTY ZERO NET MIGRATION

YEAR		SEX	0-4	5-9	10-14	15-19	20-24	25-34	35-44	45-54	55-64	65-69	70+	TOTAL
2017	BIRTHS BY AGE	M	0	0	0	134	438	800	100	0	0	0	0	1473
	OF MOTHER	F	0	0	0	129	421	763	96	0	0	0	0	1415
		T	0	0	0	263	859	1568	197	0	0	0	0	2888
	DEATHS	M	24	3	3	9	12	21	37	121	287	189	878	1585
		F	18	2	2	3	4	9	21	64	140	110	899	1273
		T	42	6	5	12	15	31	58	185	428	300	1777	2858
	NET MIGRATION	M	0	0	0	0	0	0	0	0	0	0	0	0
		F	0	0	0	0	0	0	0	0	0	0	0	0
		T	0	0	0	0	0	0	0	0	0	0	0	0
2022	BIRTHS BY AGE	M	0	0	0	131	412	765	105	0	0	0	0	1413
	OF MOTHER	F	0	0	0	126	396	735	101	0	0	0	0	1358
		T	0	0	0	257	808	1500	206	0	0	0	0	2771
	DEATHS	M	23	3	3	9	11	20	38	105	312	211	951	1686
		F	17	2	2	3	3	9	21	56	150	121	983	1368
		T	40	6	5	11	14	30	59	162	462	332	1934	3054
	NET MIGRATION	M	0	0	0	0	0	0	0	0	0	0	0	0
		F	0	0	0	0	0	0	0	0	0	0	0	0
		T	0	0	0	0	0	0	0	0	0	0	0	0

net 230

net ≈ -283

SIMCOE COUNTY POPULATION CENTROID

ZERO NET MIGRATION

POPULATION CENTROID IS LOCATED:

0.89 KMS WEST AND 0.45 KMS SOUTH OF MIDHURST IN 1976.

0.85 KMS WEST AND 0.56 KMS SOUTH OF MIDHURST IN 1981.

0.82 KMS WEST AND 0.64 KMS SOUTH OF MIDHURST IN 1986.

0.82 KMS WEST AND 0.75 KMS SOUTH OF MIDHURST IN 1991.

0.83 KMS WEST AND 0.88 KMS SOUTH OF MIDHURST IN 1996.

0.84 KMS WEST AND 1.00 KMS SOUTH OF MIDHURST IN 2001.

0.84 KMS WEST AND 1.07 KMS SOUTH OF MIDHURST IN 2006.

0.83 KMS WEST AND 1.09 KMS SOUTH OF MIDHURST IN 2011.

0.84 KMS WEST AND 1.09 KMS SOUTH OF MIDHURST IN 2016.

0.85 KMS WEST AND 1.10 KMS SOUTH OF MIDHURST IN 2021.

0.86 KMS WEST AND 1.12 KMS SOUTH OF MIDHURST IN 2026.

APPENDIX II

ENROLMENTS BY SIMCOE COUNTY RESIDENTS

IN SCHOOLS, UNIVERSITIES, AND CAATS

TOTAL OF ENROLMENTS FOR ALL SCHOOLS IN THE FOLLOWING AREAS:
SIMCOE COUNTY (H.CTY_NUM=C0)074)

SOURCE OF DATA: DSN=YKU.COATES.YR69T077,VOL=SER=Y02259 DATE=19780824

	JK	K	1	2	3	4	5	6	7	8	9	10	11	12	13	special	other	total		
YEAR=77	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	TOTAL	ENR_.
ENRL MALE	61	1931	2049	2016	1843	1815	1850	1956	2126	2270	2449	2284	1837	1435	681	0	553	27156	27156	27549
ENRL FEMALE	56	1716	1387	1895	1756	1721	1773	1816	2004	2129	2314	2112	1856	1421	623	0	255	25334	25334	25422
ENRL TOTAL	117	3647	3936	3911	3599	3536	3623	3772	4130	4399	4763	4396	3693	2856	1304	0	808	52490	52490	
MALE + FEMALE	117	3647	3936	3911	3599	3536	3623	3772	4130	4399	4763	4396	3693	2856	1304	0	808	52490	52490	52971
YEAR=76	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	TOTAL	ENR_.
ENRL MALE	74	1865	2090	1907	1842	1826	1877	2180	2403	2213	2504	2387	1609	1508	635	0	629	27549	27549	27049
ENRL FEMALE	46	1779	1939	1738	1669	1758	1769	1967	2149	2111	2322	2159	1731	1396	597	0	292	25422	25422	25268
ENRL TOTAL	120	3644	4029	3645	3511	3584	3646	4147	4552	4324	4826	4546	3340	2904	1232	0	921	52971	52971	
MALE + FEMALE	120	3644	4029	3645	3511	3584	3646	4147	4552	4324	4826	4546	3340	2904	1232	0	921	52971	52971	52317
YEAR=75	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	TOTAL	ENR_.
ENRL MALE	48	1863	1919	1822	1772	1868	2094	2302	2274	2194	2497	2105	1643	1423	653	572	0	27049	27049	26596
ENRL FEMALE	63	1751	1717	1659	1752	1737	1954	2106	2140	2098	2363	2065	1659	1329	585	290	0	25268	25268	24913
ENRL TOTAL	111	3614	3636	3481	3524	3605	4048	4408	4414	4292	4860	4170	3302	2752	1238	862	0	52317	52317	
MALE + FEMALE	111	3614	3636	3481	3524	3605	4048	4408	4414	4292	4860	4170	3302	2752	1238	862	0	52317	52317	51509
YEAR=74	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	TOTAL	ENR_.
ENRL MALE	56	1682	1885	1782	1800	2078	2392	2255	2302	2409	2366	2047	1632	1209	639	0	48	26644	26582	26393
ENRL FEMALE	62	1581	1635	1690	1732	1915	2124	2126	2090	2228	2243	1968	1582	1308	591	0	17	24930	24892	24484
ENRL TOTAL	118	3263	3520	3472	3532	3993	4516	4381	4392	4637	4609	4015	3214	2517	1230	0	65	51574	51474	
MALE + FEMALE	118	3263	3520	3472	3532	3993	4516	4381	4392	4637	4609	4015	3214	2517	1230	0	65	51574	51474	50877
YEAR=73	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	TOTAL	ENR_.
ENRL MALE	0	1557	1684	1729	1947	2170	2108	2165	2174	2042	2350	1982	1555	1257	653	0	552	25925	25925	25841
ENRL FEMALE	0	1408	1566	1625	1814	1928	1960	2053	2073	1942	2158	1855	1541	1294	541	0	321	24079	24079	23801
ENRL TOTAL	0	2965	3250	3354	3761	4098	4068	4218	4247	3984	4508	3837	3096	2551	1194	0	873	50004	50004	
MALE + FEMALE	0	2965	3250	3354	3761	4098	4068	4218	4247	3984	4508	3837	3096	2551	1194	0	873	50004	50004	49642
YEAR=72	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	TOTAL	ENR_.
ENRL MALE	0	1469	1662	1936	2115	2045	2120	2155	2052	2010	2291	1951	1539	1266	656	0	574	25841	25841	25509
FNPL FEMALE	0	1441	1564	1772	1868	1889	1962	2001	1919	1865	1975	1859	1588	1252	524	0	322	23801	23801	23488
FNRL TOTAL	0	2910	3226	3709	3983	3934	4082	4156	3971	3875	4266	3810	3127	2519	1180	0	896	49642	49642	
MALE + FEMALE	0	2910	3226	3708	3983	3934	4082	4156	3971	3875	4266	3810	3127	2518	1180	0	896	49642	49642	48997
YEAR=71	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	TOTAL	ENR_.
ENPL MALE	0	1441	1923	2096	2000	2077	2045	1998	2040	1863	2228	1991	1485	1374	702	0	246	25509	25509	25171
ENRL FEMALE	0	1398	1749	1830	1842	1909	1927	1836	1895	1757	1989	1872	1488	1198	638	0	160	23488	23488	23186
ENRL TOTAL	0	2839	3672	3926	3842	3986	3972	3834	3935	3620	4217	3863	2973	2572	1340	0	406	48997	48997	
MALE + FEMALE	0	2839	3672	3926	3842	3986	3972	3834	3935	3620	4217	3863	2973	2572	1340	0	406	48997	48997	48357
YEAR=70	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	TOTAL	ENR_.
ENRL MALE	0	1662	2098	2026	2021	2001	1925	1927	1922	1853	2200	1947	1473	1347	648	0	428	25478	25478	7897
ENPL FEMALE	3	1577	1827	1854	1875	1869	1805	1824	1778	1778	2015	1834	1420	1198	579	0	259	23495	23495	7228
ENRL TOTAL	3	3239	3925	3880	3896	3870	3730	3751	3700	3631	4215	3781	2893	2545	1227	0	687	48973	48973	
MALE + FEMALE	3	3239	3925	3880	3896	3870	3730	3751	3700	3631	4215	3781	2893	2545	1227	0	687	48973	48973	15125
YEAR=69	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	TOTAL	ENR_.
ENRL MALE	0	1469	2146	2039	2054	1909	1903	1850	1900	1800	2006	1717	1398	1275	536	0	980	24825	24982	23677
ENRL FEMALE	0	1316	1939	1911	1879	1770	1818	1783	1795	1786	1845	1595	1351	1187	497	0	421	22893	22893	22070
ENRL TOTAL	0	2785	4085	3950	3933	3679	3721	3633	3695	3586	3851	3312	2749	2462	1033	0	1244	47718	47718	
MALE + FEMALE	0	2785	4085	3950	3933	3679	3721	3633	3695	3586	3851	3312	2749	2462	1033	0	1401	47718	47875	45747

15/07/78 ONTARIO 74 99 ENROLMENT BY AGE, COUNTY OF RESIDENCE, SEX AND REGISTRATION STATUS, FALL 1972. PAGE 1

	UNDER 18	18	19	20	21	22	23	24	25	26	27	28	OVER 28	NR	TOTAL
74 - SIMCOE COUNTY															
MALE	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
POST M.D. INTERNS							.049 1		.098 2						3 .147
RESIDENTS (MEDICAL)										.049 1	.049 1	.049 1	.049 1		4 .197
FULL-TIME CO-OP (OFF CAMPUS)			.049 1	.295 6	.098 2	.344 7	.049 1	.197 4							21 1.032
REGULAR FULL-TIME	.098 2	2.507 51	8.997 183	8.112 165	6.441 13	4.474 91	2.507 51	1.967 40	1.475 30	.737 15	.344 7	.246 5	.983 20	.295 6	797 39.184
18 with line up (on campus)		.344 7	.885 18	.541 11	.344 7	.492 10	.295 6	.295 6	.049 1				.049 1		67 3.294
PART-TIME OFF-CAMPUS CENTRES					.049 1	.344 7	.246 5	.442 9	.492 10	.737 15	.492 10	.541 11	4.130 84	.098 2	154 7.571
REGULAR PART-TIME			.049 1	.049 1	.098 2	.246 5	.147 3	.098 2	.197 4	.197 4	.197 4	.393 8	3.048 62		96 4.720
CORRESPONDENCE, MULTI-MEDIA							.049 1						.098 2		3 .147
TOTAL FOR MALE	.098 2	2.852 58	9.980 203	8.997 183	7.030 143	5.900 120	3.343 68	2.999 61	2.311 47	1.721 35	1.082 22	1.229 25	8.358 170	.393 8	1145 56.293
FEMALE															
FULL-TIME CO-OP (OFF CAMPUS)					.049 1										1 .049
REGULAR FULL-TIME	.049 1	2.606 53	8.800 179	7.375 150	6.096 124	2.753 56	1.180 24	.197 4	.098 2	.049 1	.246 5		.688 14		613 30.137
18	.049 1		.197 4	.098 2	.049 1	.049 1	.049 1								10 .492
PART-TIME OFF-CAMPUS CENTRES			.098 2	.246 5	.197 4	.590 12	.787 16	.836 17	.492 10	.442 9	.246 5	.442 9	5.654 115	.147 3	207 10.177
REGULAR PART-TIME				.049 1	.098 2	.442 9	.098 2	.393 8	.098 2	.147 3	.344 7		.836 17		51 2.507
CORRESPONDENCE, MULTI-MEDIA										.049 1			.295 6		7 .344
TOTAL FOR FEMALE	.098 2	2.606 53	9.095 185	7.768 158	6.490 132	3.835 78	2.114 43	1.426 29	.688 14	.688 14	.836 17	.442 9	7.473 152	.147 3	889 43.707
TOTAL FOR 74	.197 4	5.457 111	19.076 388	16.765 341	13.520 275	9.734 198	5.457 111	4.425 90	2.999 61	2.409 49	1.917 39	1.672 34	15.831 322	.541 11	2034 100.000
99 - NOT REPORTED															
MALE															
POST M.D. INTERNS								6	2	14	2	2	11	8	45
RESIDENTS (MEDICAL)								1	2	2	4	3	29	5	46
FULL-TIME OFF-CAMPUS CENTRES				1									2		3
REGULAR FULL-TIME	26	357	1519	2073	2123	1646	1160	884	711	525	318	228	799	158	12537
18														1	1
PART-TIME OFF-CAMPUS CENTRES			1	8	7	13	23	34	33	36	34	38	356	37	620
REGULAR PART-TIME		7	32	70	163	322	430	518	756	715	569	547	4107	553	8789
CORRESPONDENCE, MULTI-MEDIA													2		2
TOTAL FOR MALE	26	364	1552	2152	2293	1981	1613	1443	1504	1292	927	618	5306	772	22043
FEMALE															
POST M.D. INTERNS								2					4		6
RESIDENTS (MEDICAL)									1	2		2	6	1	12
FULL-TIME OFF-CAMPUS CENTRES			1						1		1				3

15/07/78 ONTARIO 74 99 ENROLMENT BY AGE, COUNTY OF RESIDENCE, SEX AND REGISTRATION STATUS, FALL 1972. PAGE 2

	UNDER 18	18	19	20	21	22	23	24	25	26	27	28	OVER 28	NR	TOTAL
99 - CONTINUED															
FEMALE - CONTINUED															
REGULAR FULL-TIME	33	533	1553	1560	1207	671	350	263	172	109	74	71	451	76	7123
PART-TIME OFF-CAMPUS CENTRES			3	26	41	66	59	64	49	48	43	20	553	52	1024
REGULAR PART-TIME	1	13	35	104	187	286	374	395	451	388	311	270	2908	436	6159
CORRESPONDENCE, MULTI-MEDIA										1	1		8		10
TOTAL FOR FEMALE	34	546	1592	1690	1435	1023	783	724	674	546	430	363	3930	565	14337
TOTAL FOR 99	60	910	3144	3842	3728	3004	2396	2167	2178	1840	1357	1181	9236	1337	36380
GRAND TOTAL	64	1021	3532	4183	4005	3202	2507	2257	2239	1886	1396	1215	9558	1348	38414

17/07/78 ONTARIO 74 99 ENROLMENT BY AGE, COUNTY OF RESIDENCE, SEX AND REGISTRATION STATUS, FALL 1973.

	UNDER 18	18	19	20	21	22	23	24	25	26	27	28	OVER 28	NR	TOTAL	
74 - SIMCOE COUNTY	%	%	%	%	%	%	%	%	%	%	%	%	%	%		%
MALE																
POST M.D. INTERNS										.054 1					1	.054
RESIDENTS (MEDICAL)								.054 1		.054 1					2	[illegible]
FULL-TIME CO-OP (OFF CAMPUS)			.054 1	.323 6	.484 9	.269 5	.269 5	.108 2	.161 3	.054 1					32	[illegible]
REGULAR FULL-TIME	.054 1	1.453 27	8.450 157	8.073 150	7.643 142	5.274 98	2.368 44	1.184 22	1.453 27	.538 10	.431 8	.215 4	.592 11	.215 4	705	[illegible]
18		.323 6	1.400 26	.753 14	.646 12	.108 2	.323 6	.054 1	.161 3	.054 1	.161 3				74	[illegible]
PART-TIME OFF-CAMPUS CENTRES						.054 1	.431 8	.377 7	.700 13	.861 16	.861 16	.484 9	4.360 81	.108 2	153	[illegible]
REGULAR PART-TIME			.054 1		.108 2	.269 5	.215 4	.161 3	.161 3	.215 4	.269 5	.054 1	2.207 41	.054 1	70	3.767
TOTAL FOR MALE	.054 1	1.776 33	9.957 185	9.150 170	8.881 165	5.974 111	3.606 67	1.938 36	2.637 49	1.830 34	1.722 32	.753 14	7.158 133	.377 7	1037	55.813
FEMALE																
POST M.D. INTERNS									.054 1						1	[illegible]
FULL-TIME CO-OP (OFF CAMPUS)		.054 1		.054 1	.108 2	.054 1	.054 1								6	
REGULAR FULL-TIME		2.422 45	7.104 132	7.804 145	5.544 103	2.637 49	1.507 28	.215 4	.108 2	.054 1	.215 4	.161 3	.377 7	.161 3	526	[illegible]
18		.054 1		.161 3		.054 1									5	[illegible]
PART-TIME OFF-CAMPUS CENTRES				.108 2	.484 9	.215 4	.753 14	.861 16	1.130 21	.969 18	.700 13	.431 8	7.535 140	.323 6	251	[illegible]
REGULAR PART-TIME			.054 1	.161 3	.108 2	.108 2	.161 3	.054 1	.108 2	.108 2	.108 2		[illegible] 9		27	[illegible]
CORRESPONDENCE, MULTI-MEDIA									.054 1				.215 4		5	[illegible]
TOTAL FOR FEMALE		2.530 47	7.158 133	8.288 154	6.243 116	3.067 57	2.476 46	1.130 21	1.453 27	1.130 21	1.023 19	.592 11	8.611 160	.484 9	821	[illegible]
TOTAL FOR 74	.054 1	4.306 80	17.115 318	17.438 324	15.124 281	9.042 168	6.082 113	3.068 57	4.090 76	2.960 55	2.745 51	1.346 25	15.769 293	.861 16	1858	[illegible]
99 - NOT REPORTED																
MALE																
POST M.D. INTERNS							2	32	47	22	21	8	25	16	173	
RESIDENTS (MEDICAL)								1	40	52	91	90	408	47	729	
REGULAR FULL-TIME	91	1022	3195	3687	3762	3172	2282	1745	1320	1048	794	510	1911	207	24746	
PART-TIME OFF-CAMPUS CENTRES		1		6	8	10	12	23	26	31	35	27	406	9	594	
REGULAR PART-TIME	3	15	72	190	312	438	635	782	866	1070	1049	713	6722	573	13440	
CORRESPONDENCE, MULTI-MEDIA						1							1		2	
TOTAL FOR MALE	94	1038	3267	3883	4082	3621	2931	2583	2299	2223	1990	1348	9473	852	39684	
FEMALE																
POST M.D. INTERNS							3	8	11	7	5	2	7	3	46	
RESIDENTS (MEDICAL)							2		12	16	15	25	91	11	172	
REGULAR FULL-TIME	67	1024	2935	3145	2608	1731	1023	594	400	323	237	165	1102	108	15462	
PART-TIME OFF-CAMPUS CENTRES	1		2	7	26	32	53	44	39	45	34	29	568	16	896	
REGULAR PART-TIME		23	96	230	424	607	717	844	826	859	708	592	6312	546	12784	

17/07/78 ONTARIO 74 99 ENROLMENT BY AGE, COUNTY OF RESIDENCE, SEX AND REGISTRATION STATUS, FALL 1973.

	UNDER 18	18	19	20	21	22	23	24	25	26	27	28	OVER 28	NR	TOTAL
99 - CONTINUED															
FEMALE - CONTINUED															
CORRESPONDENCE, MULTI-MEDIA													1		1
TOTAL FOR FEMALE	68	1047	3033	3382	3058	2370	1798	1490	1288	1250	999	813	8081	684	29361
TOTAL FOR 99	162	2085	6300	7265	7140	5991	4729	4073	3587	3473	2989	2161	17554	1536	69045
GRAND TOTAL	163	2165	6618	7589	7421	6159	4842	4130	3663	3528	3040	2186	17847	1552	70903

	UNDER 18	18	19	20	21	22	23	24	25	26	27	28	OVER 28	NR	TOTAL
74 - SIMCOE COUNTY															
MALE															
FULL-TIME CO-OP (OFF CAMPUS)			.039 1	.393 10	.315 8	.275 7	.079 2	.079 2		.079 2	.039 1	.079 2			35 1.377
REGULAR FULL-TIME	.079 2	1.534 39	7.238 184	9.166 233	6.609 168	5.389 137	2.793 71	1.416 36	.708 18	.983 25	.354 9	.472 12	1.023 26	.157 4	964 37.923
18		.157 4	1.062 27	.826 21	.472 12	.511 13	.157 4		.039 1	.039 1	.039 1				84 3.304
PART-TIME OFF-CAMPUS CENTRES			.079 2			.039 1	.039 1	.275 7	.315 8	.433 11	.433 11	.669 17	3.383 86		144 5.665
REGULAR PART-TIME	.079 2		.118 3		.197 5	.275 7	.275 7	.433 11	.236 6	.393 10	.354 9	.433 11	3.226 82	.197 5	158 6.215
CORRESPONDENCE, MULTI-MEDIA													.039 1		1 .039
28								.039 1							1 .039
TOTAL FOR MALE	.157 4	1.692 43	8.537 217	10.386 264	7.592 193	6.491 165	3.344 85	2.242 57	1.298 33	1.928 49	1.220 31	1.652 42	7.671 195	.354 9	1387 54.563
FEMALE															
FULL-TIME CO-OP (OFF CAMPUS)					.118 3		.039 1								4 .157
REGULAR FULL-TIME	.079 2	2.793 71	7.907 201	6.176 157	5.822 148	3.108 79	1.534 39	.747 19	.354 9	.157 4	.079 2	.118 3	.472 12	.157 4	750 29.504
18		.118 3	.157 4		.039 1	.079 2									10 .393
PART-TIME OFF-CAMPUS CENTRES			.118 3	.118 3	.039 1	.393 10	.197 5	.669 17	.590 15	.629 16	.59 15	.787 20	5.862 149	.236 6	260 10.228
REGULAR PART-TIME			.197 5	.039 1	.275 7	.433 11	.118 3	.354 9	.236 6	.354 9	.236 6	.275 7	2.321 59	.079 2	125 4.917
CORRESPONDENCE, MULTI-MEDIA								.039 1					.157 4		5 .197
28			.039 1												1 .039
TOTAL FOR FEMALE	.079 2	2.911 74	8.419 214	6.334 161	6.294 160	4.013 102	1.888 48	1.810 46	1.180 30	1.141 29	.905 23	1.180 30	8.812 224	.472 12	1155 45.437
TOTAL FOR 74	.236 6	4.603 117	16.955 431	16.719 425	13.887 353	10.504 267	5.232 133	4.052 103	2.478 63	3.068 78	2.124 54	2.832 72	16.483 419	.826 21	2542 100.000
99 - NOT REPORTED															
MALE															
FULL-TIME OFF-CAMPUS CENTRES				1											1
REGULAR FULL-TIME	9	39	129	192	248	266	255	232	170	138	120	84	337	2272	4491
PART-TIME OFF-CAMPUS CENTRES		1			3	3	7	10	21	19	11	17	154	3	249
REGULAR PART-TIME		4	9	31	86	208	254	322	366	425	533	508	3138	760	6644
CORRESPONDENCE, MULTI-MEDIA										1	1		2		4
TOTAL FOR MALE	9	44	138	224	337	477	516	564	557	583	665	609	3631	3035	11389
FEMALE															
REGULAR FULL-TIME	8	45	105	163	211	165	83	68	63	45	29	19	151	1487	2642
PART-TIME OFF-CAMPUS CENTRES				1	5	11	25	39	36	26	28	19	457	8	655
REGULAR PART-TIME	1	5	19	47	111	222	271	299	373	389	426	371	3061	508	6103
CORRESPONDENCE, MULTI-MEDIA									1						1

	UNDER 18	18	19	20	21	22	23	24	25	26	27	28	OVER 28	NR	TOTAL
99 - CONTINUED															
TOTAL FOR FEMALE	9	50	124	211	327	398	379	406	473	460	483	409	3669	2003	9401
TOTAL FOR 99	18	94	262	435	664	875	895	970	1030	1043	1148	1018	7300	5038	20790
GRAND TOTAL	24	211	693	860	1017	1142	1028	1073	1093	1121	1202	1090	7719	5059	23332

	UNDER 18	18	19	20	21	22	23	24	25	26	27	28	OVER 28	NR	TOTAL	72
74 - SIMCOE COUNTY																
MALE																
FULL-TIME CO-OP (OFF CAMPUS)			.175 5	.315 9	.596 17	.280 8	.280 8	.035 1							48	[illegible]
REGULAR FULL-TIME	.035 1	1.402 40	5.889 168	7.326 209	7.326 209	5.258 150	2.979 85	1.227 35	.561 16	.491 14	.631 18	.421 12	.666 19	.175 5	981	[illegible]
18		.386 11	.981 28	.736 21	.421 12	.280 8	.175 5	.035 1			.105 3	.105 3			92	[illegible]
PART-TIME OFF-CAMPUS CENTRES				.070 2	.245 7	.140 4	.035 1	.070 2	.491 14	.245 7	.491 14	.351 10	4.837 138	.210 6	205	[illegible]
REGULAR PART-TIME		.035 1	.035 1	.245 7	.210 6	.105 3	.315 9	.245 7	.175 5	.280 8	.456 13	.280 8	2.944 84	.035 1	153	5.363
CORRESPONDENCE, MULTI-MEDIA													.035 1		1	.035
TOTAL FOR MALE	.035 1	1.823 52	7.080 202	8.693 248	8.798 251	6.064 173	3.785 108	1.612 46	1.227 35	1.016 29	1.682 48	1.157 33	8.482 242	.421 12	1480	51.875
FEMALE																
FULL-TIME CO-OP (OFF CAMPUS)							.035 1								1	.035
REGULAR FULL-TIME	.140 4	2.138 61	7.781 222	6.940 198	4.942 141	3.330 95	1.437 41	.596 17	.386 11	.210 6	.210 6	.105 3	.946 27	.140 4	836	[illegible]
18		.070 2	.140 4	.280 8		.105 3									17	[illegible]
PART-TIME OFF-CAMPUS CENTRES		.035 1		.140 4	.105 3	.140 4	.280 8	.386 11	.771 22	.841 24	.666 19	20	7.396 211	.631 18	345	[illegible]
REGULAR PART-TIME			.070 2	.175 5	.386 11	.386 11	.210 6	.351 10	.421 12	.315 9	.245 7	.351 10	2.980 85	.070 2	170	[illegible]
CORRESPONDENCE, MULTI-MEDIA													.140 4		4	.140
TOTAL FOR FEMALE	.140 4	2.243 64	7.992 228	7.536 215	5.433 155	3.961 113	1.963 56	1.332 38	1.577 [illegible]	1.367 39	1.122 32	33	11.461 327	.841 24	1373	48.125
TOTAL FOR 74	.175 5	4.066 116	15.072 430	16.229 463	14.231 406	10.025 286	5.748 164	2.944 84	2.804 80	2.383 68	2.804 80	66	19.944 569	1.262 36	2853	100.00
99 - NOT REPORTED																
MALE																
REGULAR FULL-TIME	14	130	488	493	534	492	460	351	222	182	122	116	343	259	4206	
PART-TIME OFF-CAMPUS CENTRES								1	1	1	1		10	1	15	
REGULAR PART-TIME		4	16	30	80	168	277	314	345	396	398	446	2731	744	5949	
CORRESPONDENCE, MULTI-MEDIA											1				1	
TOTAL FOR MALE	14	134	504	523	614	660	737	666	[illegible]	579	522	562	3084	1004	10171	
FEMALE																
REGULAR FULL-TIME	8	162	554	427	342	269	177	121	82	62	54	38	159	133	2588	
PART-TIME OFF-CAMPUS CENTRES							1	1	2	2		4	15		25	
REGULAR PART-TIME		3	25	43	93	170	215	263	270	297	334	348	2652	632	5345	
CORRESPONDENCE, MULTI-MEDIA						1				1					2	
TOTAL FOR FEMALE	8	165	579	470	435	440	393	385	354	362	368	390	2826	765	7960	

	UNDER 18	18	19	20	21	22	23	24	25	26	27	28	OVER 28	NR	TOTAL
TOTAL FOR 99	22	299	1083	993	1049	1100	1130	1051	922	941	910	952	5910	1769	18131
GRAND TOTAL	27	415	1513	1456	1455	1386	1294	1135	1002	1009	990	1018	6479	1805	20984

14/07/78 ONTARIO 74 99 ENROLMENT BY AGE, COUNTY OF RESIDENCE, SEX AND REGISTRATION STATUS, 76. PAGE 1

	UNDER 18	18	19	20	21	22	23	24	25	26	27	28	OVER 28	NR	TOTAL	%
74-SIMCOE COUNTY																
MALE																
FULL-TIME CO-OP (OFF CAMPUS)			5	4	15	9	3	1					2		39	1.328
REGULAR FULL-TIME	1	31	191	205	193	167	75	59	22	15	10	8	35	6	1018	34.661
18 full time coop (on campus)		3	19	28	12	14	6	4					1		87	2.[illegible]
PART-TIME OFF-CAMPUS CENTRES				1	5		4	1	9	10	3	9	99	2	143	4.869
REGULAR PART-TIME				1	6	10	5	4	11	9	5	8	72	1	132	4.494
CORRESPONDENCE, MULTI-MEDIA													(1)		1	.034
28 Part time coop (on campus)						(1)									(1)	.034
TOTAL FOR MALE	1	34	215	239	231	201	93	69	42	34	18	25	210	9	1421	48.383
FEMALE																
FULL-TIME CO-OP (OFF CAMPUS)				2	3		2								7	.238
REGULAR FULL-TIME		59	256	238	186	103	50	15	17	9	3	9	22	6	973	33.12[illegible]
18		2	8	4	6										20	.681
PART-TIME OFF-CAMPUS CENTRES				3	5	10	6	9	14	23	21	19	235	10	355	12.087
REGULAR PART-TIME	1			4	6	7	8	3	9	7	6	10	92	5	156	5.310
CORRESPONDENCE, MULTI-MEDIA													3		3	.102
TOTAL FOR FEMALE	1	61	264	251	206	120	66	27	40	39	30	38	352	21	1516	51.617
TOTAL FOR 74	2	95	479	490	437	321	159	96	82	73	48	63	562	30	2937	100.000
99 - NOT REPORTED														.0142	1.394 %	
MALE																
REGULAR FULL-TIME		25	106	151	137	180	214	265	207	156	150	108	386	46	2131	
PART-TIME OFF-CAMPUS CENTRES									1				7		8	
REGULAR PART-TIME	1	2	13	43	74	166	239	310	336	363	399	366	3113	90	5537	
CORRESPONDENCE, MULTI-MEDIA								1							1	
TOTAL FOR MALE	1	27	119	194	211	346	453	576	544	519	549	496	3506	136	7677	
FEMALE																
REGULAR FULL-TIME	3	25	90	179	103	122	109	107	77	68	54	45	180	24	1186	
PART-TIME OFF-CAMPUS CENTRES					1	1				1	2	1	19		25	
REGULAR PART-TIME		2	12	63	117	197	215	270	307	285	345	325	3274	121	5533	
CORRESPONDENCE, MULTI-MEDIA													1		1	

1976 Simcoe County Pop = 210,685.

14/07/78 ONTARIO 74 99 ENROLMENT BY AGE, COUNTY OF RESIDENCE, SEX AND REGISTRATION STATUS, 76. PAGE 2

	UNDER 18	18	19	20	21	22	23	24	25	26	27	28	OVER 28	NR	TOTAL
99 - CONTINUED TOTAL FOR FEMALE	3	27	102	242	221	320	324	377	384	354	401	371	3474	145	6745
TOTAL FOR 99	4	54	221	436	432	666	777	953	928	873	950	867	6980	281	14422
GRAND TOTAL	6	149	700	926	869	987	936	1049	1010	946	998	930	7542	311	17359

	UNDER 18	18	19	20	21	22	23	24	25	26	27	28	OVER 28	NR	TOTAL	%
74 - SIMCOE COUNTY																
MALE																
FULL-TIME CO-OP (OFF_CAMPUS)			1	9	19	8	9	3	1						50	1.725
REGULAR FULL-TIME		35	153	196	172	144	90	44	34	12	10	8	32	5	935	32.234
18 - FULL-TIME CO-OP (ON CAMPUS)		10	29	16	6	17	10	1							89	3.071
PART-TIME OFF-CAMPUS CENTRES			1		1	3	2	1	1	5	3		46	2	65	2.243
REGULAR PART-TIME			3	1	3	16	14	5	8	8	12	15	175	6	266	9.179
CORRESPONDENCE, MULTI-MEDIA						1		1		2		1	10	1	16	.552
28 - PART-TIME CO-OP (ON CAMPUS)					1		2								3	.103
TOTAL FOR MALE		45	187	222	202	189	127	55	44	27	25	24	263	14	1424	49.137
FEMALE																
FULL-TIME CO-OP (OFF_CAMPUS)				4	4	2									10	.345
REGULAR FULL-TIME	2	42	192	213	196	112	51	24	12	9	7	2	27	4	893	[illegible]
18		3	10	5	2	2	1								23	.794
PART-TIME OFF-CAMPUS CENTRES				2	4	2	5	5	6	7	12	15	116	3	177	6.108
REGULAR PART-TIME		1	4	4	7	11	6	8	10	18	14	22	229	11	347	11.974
CORRESPONDENCE, MULTI-MEDIA					1	3	1	1	1		1	1	14		23	.794
28						1									1	.035
TOTAL FOR FEMALE	2	46	206	228	214	133	66	38	29	34	34	40	386	18	1474	50.863
TOTAL FOR 74	2	91	393	450	416	322	193	92	73	61	59	64	649	32	2898	100.0
99 - NOT REPORTED																
MALE																
REGULAR FULL-TIME	1	11	49	48	96	96	181	170	177	138	119	92	342	6	1526	
PART-TIME OFF-CAMPUS CENTRES													3		3	
REGULAR PART-TIME			2	1	10	16	31	55	84	72	77	100	671	12	1131	
CORRESPONDENCE, MULTI-MEDIA							1	2	1	1			18	2	25	
TOTAL FOR MALE	1	11	51	49	106	112	213	227	262	211	196	192	1034	20	2665	
FEMALE																
REGULAR FULL-TIME	2	13	49	53	111	74	109	98	73	49	54	38	168	8	899	
PART-TIME OFF-CAMPUS CENTRES											2		6		8	
REGULAR PART-TIME		1	3	8	37	12	32	34	29	28	39	49	255	31	558	
CORRESPONDENCE, MULTI-MEDIA							3	1	1	3		2	13		23	

	UNDER 18	18	19	20	21	22	23	24	25	26	27	28	OVER 28	NR	TOTAL
99 - CONTINUED TOTAL FOR FEMALE	2	14	52	61	148	86	144	133	103	80	95	89	442	39	1488
TOTAL FOR 99	3	25	103	110	254	198	357	360	365	291	291	281	1476	59	4173
GRAND TOTAL	5	116	496	560	670	520	550	453	438	352	350	345	2125	91	7071

FULL-TIME COLLEGE ENROLMENT
BY SEX AND PREVIOUS LEVEL
OF EDUCATION BY LATEST INSTITUTION
FOR NEW ENTRANTS ONLY

	1974						1975						1976						1977					
	SSGD		SSGD+		SSHGD		SSGD		SSGD+		SSHGD		SSGD		SSGD+		SSHGD		SSGD		SSGD+		SSHGD	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Banting Memorial High School (Alliston) 893064	8	22	0	7	0	3	10	18	2	4	5	11	9	30	3	3	6	9	9	27	2	0	2	8
Barrie District Central C. Ins. (Barrie) 893196	10	12	0	1	3	3	9	10	1	1	4	9	8	11	2	3	4	9	14	1	2	14	4	3
Barrie North Collegiate Ins. (Barrie) 893323	9	14	2	0	4	5	6	5	2	3	4	8	8	0	3	8	0	4	8	18	4	2	3	6
Base Borden Collegiate Ins. (Borden) 898139	5	5	2	0	3	1	0	5	1	0	6	1	6	8	0	1	3	3	7	2	0	0	1	3
Bradford District High Sch. (Bradford) 895792	5	7	1	3	4	1	4	7	2	2	0	0	1	6	1	0	1	1	5	6	4	2	1	2
Collingwood Collegiate Ins. (Collingwood) 902551	10	11	2	3	2	13	6	9	2	1	3	8	6	8	1	3	1	8	4	10	1	7	3	2
Eastview Secondary School (Barrie) 907383	10	14	2	2	4	11	12	12	3	0	1	8	10	24	6	3	3	3	12	14	3	6	4	7
Elmvale District High Sch. (Elmvale) 908274	3	12	2	1	1	1	6	12	1	1	0	4	1	5	2	0	0	2	4	7	1	2	3	1
Midhurst College (Midhurst) 885983	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0

FULL-TIME COLLEGE ENROLMENT
BY SEX AND PREVIOUS LEVEL
OF EDUCATION BY LATEST INSTITUTION
FOR NEW ENTRANTS ONLY

	1974						1975						1976						1977					
	SSGD		SSGD+		SSHGD		SSGD		SSGD+		SSHGD		SSGD		SSGD+		SSHGD		SSGD		SSGD+		SSHGD	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Midland Secondary School (Midland) 926345	14	11	2	2	3	6	14	14	1	4	4	6	19	21	3	2	1	3	31	24	3	7	5	3
Orillia District C. & V.I. (Orillia) 932582	10	14	3	0	0	11	4	11	2	0	0	5	7	9	3	4	2	8	12	8	0	2	2	7
Park Street Collegiate Ins. (Orillia) 933627	5	8	4	1	2	7	5	8	3	3	2	7	8	4	2	1	7	7	9	11	1	2	2	4
Penetanguishene S. Sch. (Penetanguishene) 934925	12	14	2	1	1	9	11	6	2	1	2	2	9	18	1	1	1	7	8	11	2	0	4	2
St. Theresa's High School (Midland) 885819	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	2	0	2	1	0	0	1
Stayner Collegiate Ins. (Stayner) 945196	1	4	0	2	0	6	1	8	0	1	1	8	2	5	2	4	1	2	0	6	5	2	2	5
Twin Lakes Sec. School (Orillia) 948870	1	7	0	1	0	2	0	9	0	1	1	6	1	14	0	0	0	5	3	10	1	1	2	7

APPENDIX III

PROGRAM LISTINGS

SOURCE LISTING

```
STMT LEV NT

    1      0  MARG: PROC OPTIONS (MAIN);

                 /* POPULATION PROJECTION PROGRAM FOR SIMCOE COUNTY */
                 /*     AUGUST 1978                                 */

    2   1  0  DCL INFIL FILE RECORD INPUT;      /* CARD INPUT */

    3   1  0  DCL OUTFIL FILE RECORD OUTPUT;    /* OUTPUT FILE */

    4   1  0  DCL 1 IN1 STATIC,                 /* NAME OF CITY, TOWN, VILLAGE */
                   2 TITLE        CHAR(80);     /*  OR TOWNSHIP                */

    5   1  0  DCL 1 IN2 STATIC,
                   2 AREA         PIC'9999V99',       /* LAND AREA (SQ KMS) */
                   2 FILL1        CHAR(1),
                   2 AREA2        PIC'9999V99',       /* RES/AGR LAND AREA (SQ KMS) */
                   2 FILL2        CHAR(1),
                   2 XCOORD       PIC'S99V99',        /* X CO-ORD FOR CENTROID */
                   2 FILL3        CHAR(1),
                   2 YCOORD       PIC'S99V99',        /* Y CO-ORD FOR CENTROID */
                   2 FILL4        CHAR(1),
                   2 NMG          PIC'S9V9999',       /* NET MIG/TOTAL NET MIG */
                   2 FILL5        CHAR(1),
                   2 S            CHAR(1),            /* A,B,C,D,E ON S-CURVE */
                   2 FILL6        CHAR(46);

    6   1  0  DCL 1 IN3 STATIC,                 /* MALE POPULATION - 11 AGE GROUPS */
                   2 MPOP(11)     PIC'99999',
                   2 FIL2         CHAR(25);

    7   1  0  DCL 1 IN4 STATIC,               /* FEMALE POPULATION - 11 AGE GROUPS */
                   2 FPOP(11)     PIC'99999',
                   2 FIL3         CHAR(25);

    8   1  0  DCL 1 IN5 STATIC,            /* COUNTY NET MIGRATION  1977 TO 1996 */
                   2 CNMG1(20)    PIC'9999';

    9   1  0  DCL 1 IN6 STATIC,            /* COUNTY NET MIGRATION  1997 TO 2016 */
                   2 CNMG2(20)    PIC'9999';

   10   1  0  DCL 1 IN7 STATIC,            /* COUNTY NET MIGRATION  2017 TO 2026 */
                   2 CNMG3(10)    PIC'9999',
                   2 FILL7        CHAR(40);

   11   1  0  DCL 1 OUT1 STATIC,  /* NAME OF CITY, TOWN, VILLAGE OR TOWNSHIP */
                   2 OTITLE       CHAR(80),
                   2 FILL8        CHAR(204);

   12   1  0  DCL 1 OUT2 STATIC,  /* POPULATIONS OF ALL AGES */
                   2 OFIELD(71)   FIXED(7);

   13   1  0  DCL PF(71,51) FIXED(9,2) STATIC,     DF(71)  FIXED(5,4) STATIC,
                  PM(71,51) FIXED(9,2) STATIC,     DM(71)  FIXED(5,4) STATIC,
                  DASH(118) CHAR(1)    STATIC,     B (71)  FIXED(5,4) STATIC,
                  EOF       CHAR(1)    STATIC,     MGM(71) FIXED(9,4) STATIC,
                  POP       FIXED(9,2) STATIC,     MGF(71) FIXED(9,4) STATIC,
                  GTOTM (12,11) FIXED(9,2) STATIC,
                  GTOTF (12,11) FIXED(9,2) STATIC,
                  GTOTT (12,11) FIXED(9,2) STATIC,
                  TOTM (12,11) FIXED(9,2) STATIC, SUMM    FIXED(7,2) STATIC,
                  TOTF (12,11) FIXED(9,2) STATIC, SUMF    FIXED(7,2) STATIC,
                  TOTT (12,11) FIXED(9,2) STATIC, DENS    FIXED(9,4) STATIC;

   14   1  0  DCL AGEGRPM (71,5) FIXED(7,6) STATIC,
                  AGEGRPF (71,5) FIXED(7,6) STATIC;

   15   1  0  DCL CNM(50) FIXED(5) STATIC;

   16   1  0  DCL CX(11) FIXED(11,2) STATIC,      TEMP  FIXED(11,2) STATIC,
                  CY(11) FIXED(11,2) STATIC,      TEMP2 FIXED(11,2) STATIC,
                  CTOT(11) FIXED(11,2) STATIC;

   17   1  0  DCL BIRTHSM(71,10) FIXED(9,4) STATIC, TOTBM(12,10) FIXED(9,4) STATIC,
                  BIRTHSF(71,10) FIXED(9,4) STATIC, TOTBF(12,10) FIXED(9,4) STATIC,
                  DEATHSM(71,10) FIXED(9,4) STATIC, TOTDM(12,10) FIXED(9,4) STATIC,
                  DEATHSF(71,10) FIXED(9,4) STATIC, TOTDF(12,10) FIXED(9,4) STATIC,
                  NETMIGM(71,10) FIXED(9,4) STATIC, TOTMM(12,10) FIXED(9,4) STATIC,
                  NETMIGF(71,10) FIXED(9,4) STATIC, TOTMF(12,10) FIXED(9,4) STATIC,
                  TOTBT  (12,10) FIXED(9,4) STATIC, TOTDT(12,10) FIXED(9,4) STATIC,
                  TOTMT  (12,10) FIXED(9,4) STATIC;

   18   1  0  DCL GTOTBM(12,10) FIXED(11,4) STATIC, GTOTDM(12,10) FIXED(11,4) STATIC,
                  GTOTBF(12,10) FIXED(11,4) STATIC, GTOTDF(12,10) FIXED(11,4) STATIC,
                  GTOTBT(12,10) FIXED(11,4) STATIC, GTOTDT(12,10) FIXED(11,4) STATIC,
                  GTOTMM(12,10) FIXED(11,4) STATIC, GTOTMF(12,10) FIXED(11,4) STATIC,
                  GTOTMT(12,10) FIXED(11,4) STATIC;

   19   1  0  DCL TITL(11) CHAR(4) STATIC INIT ('1976','1981','1986','1991','1996',
                                     '2001','2006','2011','2016','2021','2026');

   20   1  0  DCL TIT(10) CHAR(4) STATIC INIT('1977','1982','1987','1992','1997','200
              2','2007','2012','2017','2022');

   21   1  0  DCL OCOUNT FIXED(5) STATIC INIT (0);
```

```
 STMT LEV NT

                                    /* SET TO ZERO */

   22   1  0          DASH(*) = '_'; EOF = '0';
   24   1  0          CX(*) = 0;       CY(*) = 0;       CTOT(*) = 0;
   27   1  0          GTOTM(*)=0;      GTOTF(*)=0;      GTOTT(*)=0;
   30   1  0          GTOTBM(*)=0;     GTOTDM(*)=0;     GTOTMM(*)=0;
   33   1  0          GTOTBF(*)=0;     GTOTDF(*)=0;     GTOTMF(*)=0;
   36   1  0          GTOTBT(*)=0;     GTOTDT(*)=0;     GTOTMT(*)=0;

                                                      /* INITIALIZE BIRTH RATES */
   39   1  0       DO I = 1 TO 15;   B(I)=0;          END;
   42   1  0       DO I =16 TO 20;   B(I)=0.0365;     END;
   45   1  0       DO I =21 TO 25;   B(I)=0.1123;     END;
   48   1  0       DO I =26 TO 30;   B(I)=0.1282;     END;
   51   1  0       DO I =31 TO 35;   B(I)=0.0645;     END;
   54   1  0       DO I =36 TO 40;   B(I)=0.0212;     END;
   57   1  0       DO I =41 TO 45;   B(I)=0.0044;     END;
   60   1  0       DO I =46 TO 71;   B(I)=0;          END;

                                                      /* INITIALIZE DEATH RATES */
   63   1  0       DM(1)=0.0143;     DM(71)=0.0967;
   65   1  0       DF(1)=0.0112;     DF(71)=0.0479;

   67   1  0       DO I = 2 TO 5;    DM(I) =0.0006;   DF(I) =0.0005;   END;
   71   1  0       DO I = 6 TO 10;   DM(I) =0.0004;   DF(I) =0.0003;   END;
   75   1  0       DO I =11 TO 15;   DM(I) =0.0004;   DF(I) =0.0003;   END;
   79   1  0       DO I =16 TO 20;   DM(I) =0.0014;   DF(I) =0.0004;   END;
   83   1  0       DO I =21 TO 25;   DM(I) =0.0015;   DF(I) =0.0005;   END;
   87   1  0       DO I =26 TO 30;   DM(I) =0.0012;   DF(I) =0.0005;   END;
   91   1  0       DO I =31 TO 35;   DM(I) =0.0013;   DF(I) =0.0007;   END;
   95   1  0       DO I =36 TO 40;   DM(I) =0.0020;   DF(I) =0.0011;   END;
   99   1  0       DO I =41 TO 45;   DM(I) =0.0031;   DF(I) =0.0018;   END;
  103   1  0       DO I =46 TO 50;   DM(I) =0.0053;   DF(I) =0.0031;   END;
  107   1  0       DO I =51 TO 55;   DM(I) =0.0091;   DF(I) =0.0046;   END;
  111   1  0       DO I =56 TO 60;   DM(I) =0.0145;   DF(I) =0.0071;   END;
  115   1  0       DO I =61 TO 65;   DM(I) =0.0223;   DF(I) =0.0106;   END;
  119   1  0       DO I =66 TO 70;   DM(I) =0.0346;   DF(I) =0.0177;   END;
                              /* INITIALIZE AGE & SEX DISTRIBUTION RATES FOR */
                              /*  MIGRATION (A,B,C,D,E ON S-CURVE)           */

  123   1  0       DO I = 1 TO 5;
  124   1  1            AGEGRPM(I,1) = 0.0000;    AGEGRPF(I,1) = 0.0000;
  126   1  1            AGEGRPM(I,2) = 0.1319;    AGEGRPF(I,2) = 0.0998;
  128   1  1            AGEGRPM(I,3) = 0.0926;    AGEGRPF(I,3) = 0.0869;
  130   1  1            AGEGRPM(I,4) = 0.0242;    AGEGRPF(I,4) = 0.0242;
  132   1  1            AGEGRPM(I,5) =-0.0197;    AGEGRPF(I,5) =-0.0112;
  134   1  1       END;
  135   1  0       DO I = 6 TO 10;
  136   1  1            AGEGRPM(I,1) = 0.0269;    AGEGRPF(I,1) = 0.0269;
  138   1  1            AGEGRPM(I,2) = 0.0599;    AGEGRPF(I,2) = 0.0706;
  140   1  1            AGEGRPM(I,3) = 0.0654;    AGEGRPF(I,3) = 0.0628;
  142   1  1            AGEGRPM(I,4) = 0.0252;    AGEGRPF(I,4) = 0.0252;
  144   1  1            AGEGRPM(I,5) = 0.0976;    AGEGRPF(I,5) = 0.1186;
  146   1  1       END;
  147   1  0       DO I =11 TO 15;
  148   1  1            AGEGRPM(I,1) = 0.0223;    AGEGRPF(I,1) = 0.0223;
  150   1  1            AGEGRPM(I,2) = 0.0144;    AGEGRPF(I,2) = 0.0415;
  152   1  1            AGEGRPM(I,3) = 0.0306;    AGEGRPF(I,3) = 0.0344;
  154   1  1            AGEGRPM(I,4) =-0.0641;    AGEGRPF(I,4) =-0.0641;
  156   1  1            AGEGRPM(I,5) = 0.2212;    AGEGRPF(I,5) = 0.1972;
  158   1  1       END;
  159   1  0       DO I =16 TO 20;
  160   1  1            AGEGRPM(I,1) = 0.0761;    AGEGRPF(I,1) = 0.0761;
  162   1  1            AGEGRPM(I,2) = 0.0323;    AGEGRPF(I,2) = 0.0608;
  164   1  1            AGEGRPM(I,3) = 0.0122;    AGEGRPF(I,3) = 0.0326;
  166   1  1            AGEGRPM(I,4) =-0.0777;    AGEGRPF(I,4) =-0.0777;
  168   1  1            AGEGRPM(I,5) = 0.2115;    AGEGRPF(I,5) = 0.1358;
  170   1  1       END;
  171   1  0       DO I =21 TO 25;
  172   1  1            AGEGRPM(I,1) = 0.1163;    AGEGRPF(I,1) = 0.1163;
  174   1  1            AGEGRPM(I,2) = 0.0848;    AGEGRPF(I,2) = 0.0942;
  176   1  1            AGEGRPM(I,3) = 0.0535;    AGEGRPF(I,3) = 0.0673;
  178   1  1            AGEGRPM(I,4) = 0.2539;    AGEGRPF(I,4) = 0.2539;
  180   1  1            AGEGRPM(I,5) =-0.1400;    AGEGRPF(I,5) =-0.2082;
  182   1  1       END;
  183   1  0       DO I =26 TO 30;
  184   1  1            AGEGRPM(I,1) = 0.0390;    AGEGRPF(I,1) = 0.0390;
  186   1  1            AGEGRPM(I,2) = 0.0900;    AGEGRPF(I,2) = 0.0638;
  188   1  1            AGEGRPM(I,3) = 0.0628;    AGEGRPF(I,3) = 0.0601;
  190   1  1            AGEGRPM(I,4) = 0.2252;    AGEGRPF(I,4) = 0.2252;
  192   1  1            AGEGRPM(I,5) =-0.2148;    AGEGRPF(I,5) =-0.1493;
  194   1  1       END;
```

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  195   1  0       DO I =31 TO 35;
  196   1  1            AGEGRPM(I, 1) = 0.0649;     AGEGRPF(I,1) = 0.0649;
  198   1  1            AGEGRPM(I, 2) = 0.0310;     AGEGRPF(I,2) = 0.0043;
  200   1  1            AGEGRPM(I, 3) = 0.0382;     AGEGRPF(I,3) = 0.0311;
  202   1  1            AGEGRPM(I, 4) = 0.1124;     AGEGRPF(I,4) = 0.1124;
  204   1  1            AGEGRPM(I, 5) =-0.0074;     AGEGRPF(I,5) = 0.0666;
  206   1  1       END;
  207   1  0       DO I =36 TO 40;
  208   1  1            AGEGRPM(I, 1) = 0.0682;     AGEGRPF(I,1) = 0.0682;
  210   1  1            AGEGRPM(I, 2) =-0.0099;     AGEGRPF(I,2) = 0.0085;
  212   1  1            AGEGRPM(I, 3) = 0.0289;     AGEGRPF(I,3) = 0.0306;
  214   1  1            AGEGRPM(I, 4) =-0.0913;     AGEGRPF(I,4) =-0.0913;
  216   1  1            AGEGRPM(I, 5) = 0.1745;     AGEGRPF(I,5) = 0.1734;
  218   1  1       END;
  219   1  0       DO I =41 TO 45;
  220   1  1            AGEGRPM(I, 1) = 0.0186;     AGEGRPF(I,1) = 0.0186;
  222   1  1            AGEGRPM(I, 2) = 0.0322;     AGEGRPF(I,2) = 0.0375;
  224   1  1            AGEGRPM(I, 3) = 0.0333;     AGEGRPF(I,3) = 0.0344;
  226   1  1            AGEGRPM(I, 4) = 0.0544;     AGEGRPF(I,4) = 0.0544;
  228   1  1            AGEGRPM(I, 5) = 0.0554;     AGEGRPF(I,5) = 0.0473;
  230   1  1       END;
  231   1  0       DO I =46 TO 50;
  232   1  1            AGEGRPM(I, 1) =-0.0060;     AGEGRPF(I,1) =-0.0060;
  234   1  1            AGEGRPM(I, 2) = 0.0186;     AGEGRPF(I,2) = 0.0080;
  236   1  1            AGEGRPM(I, 3) = 0.0311;     AGEGRPF(I,3) = 0.0269;
  238   1  1            AGEGRPM(I, 4) = 0.0385;     AGEGRPF(I,4) = 0.0385;
  240   1  1            AGEGRPM(I, 5) = 0.0398;     AGEGRPF(I,5) = 0.0432;
  242   1  1       END;
  243   1  0       DO I =51 TO 55;
  244   1  1            AGEGRPM(I, 1) = 0.0148;     AGEGRPF(I,1) = 0.0148;
  246   1  1            AGEGRPM(I, 2) =-0.0014;     AGEGRPF(I,2) = 0.0061;
  248   1  1            AGEGRPM(I, 3) = 0.0187;     AGEGRPF(I,3) = 0.0163;
  250   1  1            AGEGRPM(I, 4) =-0.0265;     AGEGRPF(I,4) =-0.0265;
  252   1  1            AGEGRPM(I, 5) = 0.0628;     AGEGRPF(I,5) = 0.0282;
  254   1  1       END;
  255   1  0       DO I =56 TO 60;
  256   1  1            AGEGRPM(I, 1) = 0.0172;     AGEGRPF(I,1) = 0.0172;
  258   1  1            AGEGRPM(I, 2) = 0.0068;     AGEGRPF(I,2) = 0.0093;
  260   1  1            AGEGRPM(I, 3) = 0.0083;     AGEGRPF(I,3) = 0.0078;
  262   1  1            AGEGRPM(I, 4) = 0.0154;     AGEGRPF(I,4) = 0.0154;
  264   1  1            AGEGRPM(I, 5) = 0.0152;     AGEGRPF(I,5) = 0.0014;
  266   1  1       END;

  267   1  0       DO I =61 TO 65;
  268   1  1            AGEGRPM(I, 1) =-0.0107;     AGEGRPF(I,1) =-0.0107;
  270   1  1            AGEGRPM(I, 2) = 0.0022;     AGEGRPF(I,2) = 0.0002;
  272   1  1            AGEGRPM(I, 3) = 0.0046;     AGEGRPF(I,3) = 0.0053;
  274   1  1            AGEGRPM(I, 4) =-0.0195;     AGEGRPF(I,4) =-0.0195;
  276   1  1            AGEGRPM(I, 5) = 0.0185;     AGEGRPF(I,5) = 0.0218;
  278   1  1       END;
  279   1  0       DO I =66 TO 70;
  280   1  1            AGEGRPM(I, 1) = 0.0153;     AGEGRPF(I,1) = 0.0153;
  282   1  1            AGEGRPM(I, 2) =-0.0104;     AGEGRPF(I,2) = 0.0036;
  284   1  1            AGEGRPM(I, 3) = 0.0024;     AGEGRPF(I,3) = 0.0050;
  286   1  1            AGEGRPM(I, 4) = 0.0027;     AGEGRPF(I,4) = 0.0027;
  288   1  1            AGEGRPM(I, 5) = 0.0164;     AGEGRPF(I,5) = 0.0129;
  290   1  1       END;
  291   1  0       DO I = 1 TO 70;
  292   1  1          DO J = 1 TO 5;
  293   1  2             AGEGRPM(I,J) = AGEGRPM(I,J) / 5.0;
  294   1  2             AGEGRPF(I,J) = AGEGRPF(I,J) / 5.0;
  295   1  2          END;
  296   1  1       END;
  297   1  0       AGEGRPM(71,1) = 0.0371;     AGEGRPF(71,1) = 0.0371;
  299   1  0       AGEGRPM(71,2) =-0.0011;     AGEGRPF(71,2) = 0.0105;
  301   1  0       AGEGRPM(71,3) = 0.0051;     AGEGRPF(71,3) = 0.0108;
  303   1  0       AGEGRPM(71,4) = 0.0272;     AGEGRPF(71,4) = 0.0272;
  305   1  0       AGEGRPM(71,5) =-0.0081;     AGEGRPF(71,5) =-0.0006;
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     307   1  0       OPEN FILE (INFIL) INPUT;
     308   1  0       OPEN FILE (OUTFIL) OUTPUT;
                                                     /* READ IN COUNTY NET MIGRATION FOR */
     309   1  0       READ FILE (INFIL) INTO (IN5);       /*  1977 TO 2026               */
     310   1  0       READ FILE (INFIL) INTO (IN6);
     311   1  0       READ FILE (INFIL) INTO (IN7);
     312   1  0       DO I = 1 TO 20;
     313   1  1          CNM (I)    = CNMG1(I);
     314   1  1          CNM (I+20) = CNMG2(I);
     315   1  1       END;
     316   1  0       DO I = 1 TO 10;
     317   1  1          CNM (I+40) = CNMG3(I);
     318   1  1       END;

     319   1  0       ON ENDFILE (INFIL) BEGIN;
     320   2  0           PUT PAGE EDIT ('TOTAL POPULATION PROJECTION FOR SIMCOE COUNTY')
                            (X(25),A(45));
     321   2  0             EOF = '1';
     322   2  0             GOTO HEAD;
     323   2  0       END;

     324   1  0   READ:                                      /* SET TOTALS TO ZERO */
     325   1  0       PF(*)=0;       TOTF(*)=0;
     326   1  0       PM(*)=0;       TOTM(*)=0;
     328   1  0       DENS=0;        TOTT(*)=0;

     330   1  0       BIRTHSM(*)=0;   DEATHSM(*)=0;   NETMIGM(*)=0;
     333   1  0       BIRTHSF(*)=0;   DEATHSF(*)=0;   NETMIGF(*)=0;
     336   1  0       TOTBM  (*)=0;   TOTDM  (*)=0;   TOTNM(*)=0;
     339   1  0       TOTBF  (*)=0;   TOTDF  (*)=0;   TOTNF(*)=0;
     342   1  0       TOTBT  (*)=0;   TOTDT  (*)=0;   TOTNT(*)=0;

                                                     /* READ IN 4 CARDS FOR EACH CITY,  */
                                                     /*  TOWN, VILLAGE OR TOWNSHIP      */
     345   1  0       READ FILE (INFIL) INTO (IN1);
     346   1  0       READ FILE (INFIL) INTO (IN2);
     347   1  0       READ FILE (INFIL) INTO (IN3);
     348   1  0       READ FILE (INFIL) INTO (IN4);

                                  /* DIVIDE 5 AND 10 YEAR AGE GROUPS INTO SINGLE AGES  */

     349   1  0       DO I = 1 TO 5;  PF(I,1)=FPOP(1) /5; PM(I,1)=MPOP(1) /5;   END;
     353   1  0       DO I = 6 TO 10; PF(I,1)=FPOP(2) /5; PM(I,1)=MPOP(2) /5;   END;
     357   1  0       DO I =11 TO 15; PF(I,1)=FPOP(3) /5; PM(I,1)=MPOP(3) /5;   END;
     361   1  0       DO I =16 TO 20; PF(I,1)=FPOP(4) /5; PM(I,1)=MPOP(4) /5;   END;
     365   1  0       DO I =21 TO 25; PF(I,1)=FPOP(5) /5; PM(I,1)=MPOP(5) /5;   END;
     369   1  0       DO I =26 TO 35; PF(I,1)=FPOP(6)/10; PM(I,1)=MPOP(6)/10;   END;
     373   1  0       DO I =36 TO 45; PF(I,1)=FPOP(7)/10; PM(I,1)=MPOP(7)/10;   END;
     377   1  0       DO I =46 TO 55; PF(I,1)=FPOP(8)/10; PM(I,1)=MPOP(8)/10;   END;
     381   1  0       DO I =56 TO 65; PF(I,1)=FPOP(9)/10; PM(I,1)=MPOP(9)/10;   END;
     385   1  0       DO I =66 TO 70; PF(I,1)=FPOP(10)/5; PM(I,1)=MPOP(10)/5;   END;

     389   1  0       PF(71,1)=FPOP(11);      PM(71,1)=MPOP(11);

     391   1  0       IF S = 'A' THEN S = '1';
     392   1  0       IF S = 'B' THEN S = '2';
     393   1  0       IF S = 'C' THEN S = '3';
     394   1  0       IF S = 'D' THEN S = '4';
     395   1  0       IF S = 'E' THEN S = '5';

                                  /* CALCULATE POPULATION FOR 50 YEARS */

     396   1  0           DO I = 2 TO 51;
     397   1  1              DO J = 1 TO 71;
     398   1  2                 MGM(J)=CNM(I-1)*NMG*AGEGRPM(J,S);
     399   1  2                 MGF(J)=CNM(I-1)*NMG*AGEGRPF(J,S);
     400   1  2              END;
     401   1  1              DO J = 2 TO 70;
     402   1  2                 PF(J,I)=PF(J-1,I-1)-(PF(J-1,I-1)*DF(J-1)) + MGF(J-1);
     403   1  2                 PM(J,I)=PM(J-1,I-1)-(PM(J-1,I-1)*DM(J-1)) + MGM(J-1);
     404   1  2              END;
     405   1  1              SUMM=0;      SUMF=0;
     407   1  1              DO K = 10 TO 60;
     408   1  2                 SUMF=SUMF+(B(K)*PF(K,I)*0.49);
     409   1  2                 SUMM=SUMM+(B(K)*PF(K,I)*0.51);
     410   1  2              END;
     411   1  1              PF(1,I)=SUMF;      PM(1,I)=SUMM;
     413   1  1              PF(71,I)=PF(70,I-1)-(PF(70,I-1)*DF(70)) + MGF(70)
                                   + PF(71,I-1) - (PF(71,I-1)*DF(71)) + MGF(71);
     414   1  1              PM(71,I)=PM(70,I-1)-(PM(70,I-1)*DM(70)) + MGM(70)
                                   + PM(71,I-1) - (PM(71,I-1)*DM(71)) + MGM(71);
     415   1  1           END;

     416   1  0           PUT PAGE EDIT('POPULATION PROJECTION FOR ',TITLE)
                             (X(25),A(26),A(80));
     417   1  0   HEAD:
                          PUT SKIP(2) EDIT((DASH(I) DO I = 1 TO 118)) ((118)A(1));
     418   1  0           PUT SKIP(1) EDIT('YEAR  SEX      0-4     5-9  10-14  15-19  20-2
                  4  25-34  35-44  45-54  55-64  65-69    70+  TOTAL  POP.DENSITY PER SQ
                  KM')
                             (A(118));
     419   1  0           PUT SKIP(1) EDIT((DASH(I) DO I = 1 TO 118)) ((118)A(1));
     420   1  0           IF EOF='1' THEN GOTO EOJ;

     421   1  0                 OTITLE = TITLE;
     422   1  0                 FILL8 = ' ';
     423   1  0                 WRITE FILE (OUTFIL) FROM (OUT1);
     424   1  0                 OCOUNT = OCOUNT + 1;
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                              /* GROUP SINGLE AGES BACK INTO 5 AND 10 YEAR AGE GROUPS */

     425   1  0               DO I = 1 TO 11;
     426   1  1                    J = I + (4*(I-1));
     427   1  1                    DO K = 1 TO 5;  TOTM(1,I) =TOTM(1,I)  +PM(K,J);
     429   1  2                                    TOTF(1,I) =TOTF(1,I)  +PF(K,J); END;
     431   1  1                    DO K = 6 TO 10; TOTM(2,I) =TOTM(2,I)  +PM(K,J);
     433   1  2                                    TOTF(2,I) =TOTF(2,I)  +PF(K,J); END;
     435   1  1                    DO K =11 TO 15; TOTM(3,I) =TOTM(3,I)  +PM(K,J);
     437   1  2                                    TOTF(3,I) =TOTF(3,I)  +PF(K,J); END;
     439   1  1                    DO K =16 TO 20; TOTM(4,I) =TOTM(4,I)  +PM(K,J);
     441   1  2                                    TOTF(4,I) =TOTF(4,I)  +PF(K,J); END;
     443   1  1                    DO K =21 TO 25; TOTM(5,I) =TOTM(5,I)  +PM(K,J);
     445   1  2                                    TOTF(5,I) =TOTF(5,I)  +PF(K,J); END;
     447   1  1                    DO K =26 TO 35; TOTM(6,I) =TOTM(6,I)  +PM(K,J);
     449   1  2                                    TOTF(6,I) =TOTF(6,I)  +PF(K,J); END;
     451   1  1                    DO K =36 TO 45; TOTM(7,I) =TOTM(7,I)  +PM(K,J);
     453   1  2                                    TOTF(7,I) =TOTF(7,I)  +PF(K,J); END;
     455   1  1                    DO K =46 TO 55; TOTM(8,I) =TOTM(8,I)  +PM(K,J);
     457   1  2                                    TOTF(8,I) =TOTF(8,I)  +PF(K,J); END;
     459   1  1                    DO K =56 TO 65; TOTM(9,I) =TOTM(9,I)  +PM(K,J);
     461   1  2                                    TOTF(9,I) =TOTF(9,I)  +PF(K,J); END;
     463   1  1                    DO K =66 TO 70; TOTM(10,I)=TOTM(10,I) +PM(K,J);
     465   1  2                                    TOTF(10,I)=TOTF(10,I) +PF(K,J); END;
     467   1  1                    TOTM(11,I)=PM(71,J);  TOTF(11,I)=PF(71,J);
     469   1  1                    DO K = 1 TO 11;
     470   1  2                       TOTM(12,I) = TOTM(12,I) + TOTM(K,I);
     471   1  2                       TOTF(12,I) = TOTF(12,I) + TOTF(K,I);
     472   1  2                    END;
     473   1  1                    DO K = 1 TO 12;
     474   1  2                       TOTT(K,I) = TOTM(K,I) + TOTF(K,I);
     475   1  2                    END;

                              /* PRINT CALCULATED POPULATION FOR 50 YEARS */

     476   1  1                    PUT SKIP(3) EDIT (TITL(I),'M',(TOTM(L,I) DO L=1 TO 12))
                                      (A(4),X(3),A(1),X(3),(12)F(7));
     477   1  1                    DENS = TOTT(12,I) / AREA;
     478   1  1                    PUT SKIP(1) EDIT ('F',(TOTF(L,I) DO L=1 TO 12),
                                      'ALL LAND',DENS)
                                      (X(7),A(1),X(3),(12)F(7),X(3),A(8),X(4),F(8,2));
     479   1  1                    DENS = TOTT(12,I) / AREA2;
     480   1  1                    IF TITLE ='SIMCOE INDIAN RESERVES' THEN PUT SKIP(1)
                                      EDIT ('T',(TOTT(L,I) DO L=1 TO 12))(X(7),A(1),X(3),
                                      (12)F(7));
     481   1  1                    ELSE
                                   PUT SKIP(1) EDIT ('T',(TOTT(L,I) DO L=1 TO 12),
                                      'AGR/RES LAND',DENS)
                                      (X(7),A(1),X(3),(12)F(7),X(3),A(12),F(8,2));
     482   1  1                    DO K = 1 TO 12;
     483   1  2                       GTOTM(K,I) = GTOTM(K,I) + TOTM(K,I);
     484   1  2                       GTOTF(K,I) = GTOTF(K,I) + TOTF(K,I);
     485   1  2                       GTOTT(K,I) = GTOTT(K,I) + TOTT(K,I);
     486   1  2                    END;

                              /* WRITE OUTPUT RECORDS FOR POPULATION FOR 50 YEARS */

     487   1  1                    DO K = 1 TO 71;
     488   1  2                       OFIELD(K) = PM(K,J);
     489   1  2                    END;
     490   1  1                    WRITE FILE (OUTFIL) FROM (OUT2);
     491   1  1                    OCOUNT = OCOUNT + 1;
     492   1  1                    DO K = 1 TO 71;
     493   1  2                       OFIELD(K) = PF(K,J);
     494   1  2                    END;
     495   1  1                    WRITE FILE (OUTFIL) FROM (OUT2);
     496   1  1                    OCOUNT = OCOUNT + 1;

                                   /* CALCULATION NEEDED TO CALCULATE POPULATION CENTROID */

     497   1  1                    TEMP = TOTT(12,I) * XCOORD;  CX(I) = CX(I) + TEMP;
     499   1  1                    TEMP = TOTT(12,I) * YCOORD;  CY(I) = CY(I) + TEMP;
     501   1  1                    CTOT(I) = CTOT(I) + TOTT(12,I);
     502   1  1               END;
```

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STMT LEV NT

                       /* KEEP TOTALS OF BIRTHS, DEATHS, AND NET MIGRATION */

 503   1  0            DO K = 1 TO 10;
 504   1  1              I = (K+1) + (4*(K-1));
 505   1  1              DO J = 2 TO 70;
 506   1  2                 DEATHSF (J,K) = PF (J-1,I-1) * DF (J-1);
 507   1  2                 DEATHSM (J,K) = PM (J-1,I-1) * DM (J-1);
 508   1  2                 NETMIGM (J,K) = CNM(I-1) *NMG*AGEGRPM(J-1,S);
 509   1  2                 NETMIGF (J,K) = CNM(I-1) *NMG*AGEGRPF(J-1,S);
 510   1  2              END;
 511   1  1              DEATHSF(71,K)=PF(70,I-1)*DF(70) + PF(71,I-1)*DF(71);
 512   1  1              DEATHSM(71,K)=PM(70,I-1)*DM(70) + PM(71,I-1)*DM(71);
 513   1  1              NETMIGM (71,K) = CNM(I-1) *NMG*AGEGRPM(70,S)
                                    + CNM(I-1) *NMG*AGEGRPM(71,S);
 514   1  1              NETMIGF (71,K) = CNM(I-1) *NMG*AGEGRPF(70,S)
                                    + CNM(I-1) *NMG*AGEGRPF(71,S);
 515   1  1              DO L = 10 TO 60;
 516   1  2                 BIRTHSF(L,K) = PF(L,I) * B(L) * 0.49;
 517   1  2                 BIRTHSM(L,K) = PF(L,I) * B(L) * 0.51;
 518   1  2              END;
 519   1  1              DO L = 1 TO 5;
 520   1  2                 TOTBF (1,K) = TOTBF (1,K) + BIRTHSF(L,K);
 521   1  2                 TOTBM (1,K) = TOTBM (1,K) + BIRTHSM(L,K);
 522   1  2                 TOTDF (1,K) = TOTDF (1,K) + DEATHSF(L,K);
 523   1  2                 TOTDM (1,K) = TOTDM (1,K) + DEATHSM(L,K);
 524   1  2                 TOTMF (1,K) = TOTMF (1,K) + NETMIGF(L,K);
 525   1  2                 TOTMM (1,K) = TOTMM (1,K) + NETMIGM(L,K);
 526   1  2              END;
 527   1  1              DO L = 6 TO 10;
 528   1  2                 TOTBF (2,K) = TOTBF (2,K) + BIRTHSF(L,K);
 529   1  2                 TOTBM (2,K) = TOTBM (2,K) + BIRTHSM(L,K);
 530   1  2                 TOTDF (2,K) = TOTDF (2,K) + DEATHSF(L,K);
 531   1  2                 TOTDM (2,K) = TOTDM (2,K) + DEATHSM(L,K);
 532   1  2                 TOTMF (2,K) = TOTMF (2,K) + NETMIGF(L,K);
 533   1  2                 TOTMM (2,K) = TOTMM (2,K) + NETMIGM(L,K);
 534   1  2              END;
 535   1  1              DO L = 11 TO 15;
 536   1  2                 TOTBF (3,K) = TOTBF (3,K) + BIRTHSF(L,K);
 537   1  2                 TOTBM (3,K) = TOTBM (3,K) + BIRTHSM(L,K);
 538   1  2                 TOTDF (3,K) = TOTDF (3,K) + DEATHSF(L,K);
 539   1  2                 TOTDM (3,K) = TOTDM (3,K) + DEATHSM(L,K);
 540   1  2                 TOTMF (3,K) = TOTMF (3,K) + NETMIGF(L,K);
 541   1  2                 TOTMM (3,K) = TOTMM (3,K) + NETMIGM(L,K);
 542   1  2              END;
 543   1  1              DO L = 16 TO 20;
 544   1  2                 TOTBF (4,K) = TOTBF (4,K) + BIRTHSF(L,K);
 545   1  2                 TOTBM (4,K) = TOTBM (4,K) + BIRTHSM(L,K);
 546   1  2                 TOTDF (4,K) = TOTDF (4,K) + DEATHSF(L,K);
 547   1  2                 TOTDM (4,K) = TOTDM (4,K) + DEATHSM(L,K);
 548   1  2                 TOTMF (4,K) = TOTMF (4,K) + NETMIGF(L,K);
 549   1  2                 TOTMM (4,K) = TOTMM (4,K) + NETMIGM(L,K);
 550   1  2              END;
 551   1  1              DO L = 21 TO 25;
 552   1  2                 TOTBF (5,K) = TOTBF (5,K) + BIRTHSF(L,K);
 553   1  2                 TOTBM (5,K) = TOTBM (5,K) + BIRTHSM(L,K);
 554   1  2                 TOTDF (5,K) = TOTDF (5,K) + DEATHSF(L,K);
 555   1  2                 TOTDM (5,K) = TOTDM (5,K) + DEATHSM(L,K);
 556   1  2                 TOTMF (5,K) = TOTMF (5,K) + NETMIGF(L,K);
 557   1  2                 TOTMM (5,K) = TOTMM (5,K) + NETMIGM(L,K);
 558   1  2              END;
 559   1  1              DO L = 26 TO 35;
 560   1  2                 TOTBF (6,K) = TOTBF (6,K) + BIRTHSF(L,K);
 561   1  2                 TOTBM (6,K) = TOTBM (6,K) + BIRTHSM(L,K);
 562   1  2                 TOTDF (6,K) = TOTDF (6,K) + DEATHSF(L,K);
 563   1  2                 TOTDM (6,K) = TOTDM (6,K) + DEATHSM(L,K);
 564   1  2                 TOTMF (6,K) = TOTMF (6,K) + NETMIGF(L,K);
 565   1  2                 TOTMM (6,K) = TOTMM (6,K) + NETMIGM(L,K);
 566   1  2              END;
 567   1  1              DO L = 36 TO 45;
 568   1  2                 TOTBF (7,K) = TOTBF (7,K) + BIRTHSF(L,K);
 569   1  2                 TOTBM (7,K) = TOTBM (7,K) + BIRTHSM(L,K);
 570   1  2                 TOTDF (7,K) = TOTDF (7,K) + DEATHSF(L,K);
 571   1  2                 TOTDM (7,K) = TOTDM (7,K) + DEATHSM(L,K);
 572   1  2                 TOTMF (7,K) = TOTMF (7,K) + NETMIGF(L,K);
 573   1  2                 TOTMM (7,K) = TOTMM (7,K) + NETMIGM(L,K);
 574   1  2              END;
 575   1  1              DO L = 46 TO 55;
 576   1  2                 TOTBF (8,K) = TOTBF (8,K) + BIRTHSF(L,K);
 577   1  2                 TOTBM (8,K) = TOTBM (8,K) + BIRTHSM(L,K);
 578   1  2                 TOTDF (8,K) = TOTDF (8,K) + DEATHSF(L,K);
 579   1  2                 TOTDM (8,K) = TOTDM (8,K) + DEATHSM(L,K);
 580   1  2                 TOTMF (8,K) = TOTMF (8,K) + NETMIGF(L,K);
 581   1  2                 TOTMM (8,K) = TOTMM (8,K) + NETMIGM(L,K);
 582   1  2              END;
 583   1  1              DO L = 56 TO 65;
 584   1  2                 TOTBF (9,K) = TOTBF (9,K) + BIRTHSF(L,K);
 585   1  2                 TOTBM (9,K) = TOTBM (9,K) + BIRTHSM(L,K);
 586   1  2                 TOTDF (9,K) = TOTDF (9,K) + DEATHSF(L,K);
 587   1  2                 TOTDM (9,K) = TOTDM (9,K) + DEATHSM(L,K);
 588   1  2                 TOTMF (9,K) = TOTMF (9,K) + NETMIGF(L,K);
 589   1  2                 TOTMM (9,K) = TOTMM (9,K) + NETMIGM(L,K);
 590   1  2              END;
 591   1  1              DO L = 66 TO 70;
 592   1  2                 TOTBF(10,K) = TOTBF(10,K) + BIRTHSF(L,K);
 593   1  2                 TOTBM(10,K) = TOTBM(10,K) + BIRTHSM(L,K);
 594   1  2                 TOTDF(10,K) = TOTDF(10,K) + DEATHSF(L,K);
 595   1  2                 TOTDM(10,K) = TOTDM(10,K) + DEATHSM(L,K);
 596   1  2                 TOTMF(10,K) = TOTMF(10,K) + NETMIGF(L,K);
 597   1  2                 TOTMM(10,K) = TOTMM(10,K) + NETMIGM(L,K);
 598   1  2              END;
 599   1  1              TOTBF(11,K) = BIRTHSF(71,K);   TOTBM(11,K) = BIRTHSM(71,K);
 601   1  1              TOTDF(11,K) = DEATHSF(71,K);   TOTDM(11,K) = DEATHSM(71,K);
 603   1  1              TOTMF(11,K) = NETMIGF(71,K);   TOTMM(11,K) = NETMIGM(71,K);
```

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 STMT LEV NT

  605   1  1             DO L = 1 TO 11;
  606   1  2                TOTBF(12,K) = TOTBF(12,K) + TOTBF(L,K);
  607   1  2                TOTBM(12,K) = TOTBM(12,K) + TOTBM(L,K);
  608   1  2                TOTDF(12,K) = TOTDF(12,K) + TOTDF(L,K);
  609   1  2                TOTDM(12,K) = TOTDM(12,K) + TOTDM(L,K);
  610   1  2                TOTMF(12,K) = TOTMF(12,K) + TOTMF(L,K);
  611   1  2                TOTMM(12,K) = TOTMM(12,K) + TOTMM(L,K);
  612   1  2             END;
  613   1  1             DO L = 1 TO 12;
  614   1  2                TOTBT(L,K) = TOTBF(L,K) + TOTBM(L,K);
  615   1  2                TOTDT(L,K) = TOTDF(L,K) + TOTDM(L,K);
  616   1  2                TOTMT(L,K) = TOTMF(L,K) + TOTMM(L,K);
  617   1  2             END;
  618   1  1             DO L = 1 TO 12;
  619   1  2                GTOTBF(L,K) = GTOTBF(L,K) + TOTBF(L,K);
  620   1  2                GTOTBM(L,K) = GTOTBM(L,K) + TOTBM(L,K);
  621   1  2                GTOTBT(L,K) = GTOTBT(L,K) + TOTBT(L,K);
  622   1  2                GTOTDF(L,K) = GTOTDF(L,K) + TOTDF(L,K);
  623   1  2                GTOTDM(L,K) = GTOTDM(L,K) + TOTDM(L,K);
  624   1  2                GTOTDT(L,K) = GTOTDT(L,K) + TOTDT(L,K);
  625   1  2                GTOTMF(L,K) = GTOTMF(L,K) + TOTMF(L,K);
  626   1  2                GTOTMM(L,K) = GTOTMM(L,K) + TOTMM(L,K);
  627   1  2                GTOTMT(L,K) = GTOTMT(L,K) + TOTMT(L,K);
  628   1  2             END;

                  /* PRINT TOTALS OF BIRTHS, DEATHS AND NET MIGRATION */

  629   1  1             IF K=1 THEN CALL HEADING;
  630   1  1             IF K=5 THEN CALL HEADING;
  631   1  1             IF K=9 THEN CALL HEADING;
  632   1  1             PUT SKIP(3) EDIT (TIT(K),'  BIRTHS BY AGE   M   ',
                            ( TOTBM(L,K) DO L=1 TO 12)) (A(4),A(22),(12)F(7));
  633   1  1             PUT SKIP(1) EDIT ('OF MOTHER        F   ',
                            ( TOTBF(L,K) DO L=1 TO 12)) (X(7),A(19),(12)F(7));
  634   1  1             PUT SKIP(1) EDIT ('T   ',( TOTBT(L,K) DO L=1 TO 12))
                            (X(22),A(4),(12)F(7));
  635   1  1             PUT SKIP(2) EDIT ('DEATHS','M',( TOTDM(L,K) DO L=1 TO 12))
                            (X(5),A(6),X(10),A(1),X(3),(12)F(7));
  636   1  1             PUT SKIP(1) EDIT ('F   ',( TOTDF(L,K) DO L=1 TO 12))
                            (X(22),A(4),(12)F(7));
  637   1  1             PUT SKIP(1) EDIT ('T   ',( TOTDT(L,K) DO L=1 TO 12))
                            (X(22),A(4),(12)F(7));
  638   1  1             PUT SKIP(2) EDIT ('NET MIGRATION   M   ',( TOTMM(L,K)
                            DO L =1 TO 12)) (X(6),A(20),(12)F(7));
  639   1  1             PUT SKIP(1) EDIT ('F   ',( TOTMF(L,K) DO L=1 TO 12))
                            (X(22),A(4),(12)F(7));
  640   1  1             PUT SKIP(1) EDIT ('T   ',( TOTMT(L,K) DO L=1 TO 12))
                            (X(22),A(4),(12)F(7));
  641   1  1          END;
  642   1  0          GOTO READ;
  643   1  0  EOJ:

               /* PRINT CALCULATED POPULATION FOR 50 YEARS FOR SIMCOE COUNTY */

                        TITLE = 'SIMCOE COUNTY                                   ';

  644   1  0             DO I = 1 TO 11;
  645   1  1                PUT SKIP(3) EDIT (TITL(I),'M',(GTOTM(L,I) DO L=1 TO 12))
                               (A(4),X(3),A(1),X(3),(12)F(7));
  646   1  1                DENS =GTOTT(12,I) / 4842.5;
  647   1  1                PUT SKIP(1) EDIT ('F',(GTOTF(L,I) DO L=1 TO 12),
                               'ALL LAND',DENS)
                               (X(7),A(1),X(3),(12)F(7),X(3),A(8),X(4),F(8,2));
  648   1  1                DENS =GTOTT(12,I) / 2906.24;
  649   1  1                PUT SKIP(1) EDIT ('T',(GTOTT(L,I) DO L=1 TO 12),
                               'AGR/RES LAND',DENS)
                               (X(7),A(1),X(3),(12)F(7),X(3),A(12),F(8,2));
  650   1  1             END;

            /* PRINT TOTALS OF BIRTHS, DEATHS & NET MIGRATION FOR SIMCOE COUNTY */

  651   1  0          DO K = 1 TO 10;
  652   1  1             IF K = 1 THEN CALL HEADING;
  653   1  1             IF K = 5 THEN CALL HEADING;
  654   1  1             IF K = 9 THEN CALL HEADING;
  655   1  1             PUT SKIP(3) EDIT (TIT(K),'  BIRTHS BY AGE   M   ',
                            (GTOTBM(L,K) DO L=1 TO 12)) (A(4),A(22),(12)F(7));
  656   1  1             PUT SKIP(1) EDIT ('OF MOTHER        F   ',
                            (GTOTBF(L,K) DO L=1 TO 12)) (X(7),A(19),(12)F(7));
  657   1  1             PUT SKIP(1) EDIT ('T   ',(GTOTBT(L,K) DO L=1 TO 12))
                            (X(22),A(4),(12)F(7));
  658   1  1             PUT SKIP(2) EDIT ('DEATHS','M',(GTOTDM(L,K) DO L=1 TO 12))
                            (X(5),A(6),X(10),A(1),X(3),(12)F(7));
  659   1  1             PUT SKIP(1) EDIT ('F   ',(GTOTDF(L,K) DO L=1 TO 12))
                            (X(22),A(4),(12)F(7));
  660   1  1             PUT SKIP(1) EDIT ('T   ',(GTOTDT(L,K) DO L=1 TO 12))
                            (X(22),A(4),(12)F(7));
  661   1  1             PUT SKIP(2) EDIT ('NET MIGRATION   M   ',(GTOTMM(L,K)
                            DO L =1 TO 12)) (X(6),A(20),(12)F(7));
  662   1  1             PUT SKIP(1) EDIT ('F   ',(GTOTMF(L,K) DO L=1 TO 12))
                            (X(22),A(4),(12)F(7));
  663   1  1             PUT SKIP(1) EDIT ('T   ',(GTOTMT(L,K) DO L=1 TO 12))
                            (X(22),A(4),(12)F(7));
  664   1  1          END;
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 STMT LEV NT

                                        /* PRINT POPULATION CENTROID FOR COUNTY FOR 50 YEARS */

   665   1  0                       PUT PAGE EDIT('SIMCOE COUNTY POPULATION CENTROID')
                                       (X(13),A(33));
   666   1  0                       PUT SKIP(1) EDIT ((DASH(I) DO I = 1 TO 33))(X(13),
                                       (33)A(1));
   667   1  0                       PUT SKIP(4) EDIT ('POPULATION CENTROID IS LOCATED:')
                                       (A(31));
   668   1  0                       DO I = 1 TO 11;
   669   1  1                          TEMP = CX(I) / CTOT(I);     TEMP2 = CY(I) / CTOT(I);
   671   1  1                          PUT SKIP(3) EDIT (TEMP,'KMS WEST AND',TEMP2,'KMS SOUTH
              OF MIDHURST IN',TITL(I),'.') (X(2),F(6,2),X(1),A(12),X(1),F(6,2),
                                       X(1),A(24),X(1),A(4),A(1));
   672   1  1                       END;
   673   1  0                GOTO DONE;

   674   1  0          HEADING: PROCEDURE;
   675   2  0                PUT PAGE EDIT ('BIRTHS, DEATHS AND NET MIGRATION FOR',TITLE)
                                (X(26),A(36),X(1),A(80));
   676   2  0                PUT SKIP(2) EDIT ((DASH(I) DO I = 1 TO 110)) ((110)A(1));
   677   2  0                PUT SKIP(1) EDIT ('YEAR                    SEX      0-4    5-9  10
             -14  15-19  20-24  25-34  35-44  45-54  55-64  65-69    70+  TOTAL')
                                (A(110));
   678   2  0                PUT SKIP(1) EDIT ((DASH(I) DO I = 1 TO 110)) ((110)A(1));
   679   2  0                END HEADING;
   680   1  0          DONE:
                             PUT PAGE EDIT ('TOTAL RECORDS WRITTEN',OCOUNT)
                                (A(21),X(2),F(5));
   681   1  0                END MARG;
```

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PL/I OPTIMIZING COMPILER         MARG: PROC OPTIONS (MAIN);

COMPILER DIAGNOSTIC MESSAGES

ERROR ID L    STMT     MESSAGE DESCRIPTION


COMPILER INFORMATORY MESSAGES


IEL0533I I            NO 'DECLARE' STATEMENT(S) FOR 'SYSPRINT','I','J','K','L'.

IEL0906I I    398, 399, 508, 509, 513, 513, 514, 514     DATA CONVERSION WILL BE DONE BY SUBROUTINE CALL.


END OF COMPILER DIAGNOSTIC MESSAGES

COMPILE TIME    0.85 MINS         SPILL FILE:    107 RECORDS, SIZE 4051


                        SOURCE LISTING

          STMT LEV NT

             1      0  MARG: PROC OPTIONS (MAIN);

                          /* PROGRAM TO CALCULATE PROJECTED ENROLMENT IN ONTARIO
                             UNIVERSITIES FROM SIMCOE COUNTY.   AUGUST 1978.          */

                          /* (1976 PERCENTAGES ARE USED) */

             2    1  0  DCL INFIL FILE RECORD INPUT;          /* INPUT FILE */

             3    1  0  DCL 1 IN1 STATIC,
                              2 POPM(71) FIXED(7); /*   MALE POPULATION */

             4    1  0  DCL 1 IN2 STATIC,
                              2 POPF(71) FIXED(7); /* FEMALE POPULATION */

             5    1  0  DCL 1 IN3 STATIC,
                              2 TITLF     CHAR(50), /* NAME OF CITY, TOWN, VILLAGE, OR */
                              2 FILL      CHAR(234);     /* TOWNSHIP                    */

             6    1  0  DCL UNDER18M       FIXED(5)        STATIC,
                            UNDER18F       FIXED(5)        STATIC,
                            OVER28M        FIXED(5)        STATIC,
                            OVER28F        FIXED(5)        STATIC,
                            ALLM           FIXED(5)        STATIC,
                            ALLF           FIXED(5)        STATIC,
                            FPERCENTM(14)  FIXED(7,5)      STATIC,
                            FPERCENTF(14)  FIXED(7,5)      STATIC,
                            PPERCENTM(14)  FIXED(7,5)      STATIC,
                            PPERCENTF(14)  FIXED(7,5)      STATIC,
                            FENROLM   (15) FIXED(11,5)     STATIC,
                            FENROLF   (15) FIXED(11,5)     STATIC,
                            FENROLT   (15) FIXED(11,5)     STATIC,
                            PENROLM   (15) FIXED(11,5)     STATIC,
                            PENROLF   (15) FIXED(11,5)     STATIC,
                            PENROLT   (15) FIXED(11,5)     STATIC,
                            TENROLM   (15) FIXED(11,5)     STATIC,
                            TENROLF   (15) FIXED(11,5)     STATIC,
                            TENROLT   (15) FIXED(11,5)     STATIC,
                            FGTOTM(15,11)  FIXED(11,5)     STATIC,
                            FGTOTF(15,11)  FIXED(11,5)     STATIC,
                            FGTOTT(15,11)  FIXED(11,5)     STATIC,
                            PGTOTM(15,11)  FIXED(11,5)     STATIC,
                            PGTOTF(15,11)  FIXED(11,5)     STATIC,
                            PGTOTT(15,11)  FIXED(11,5)     STATIC,
                            TGTOTM(15,11)  FIXED(11,5)     STATIC,
                            TGTOTF(15,11)  FIXED(11,5)     STATIC,
                            TGTOTT(15,11)  FIXED(11,5)     STATIC;

             7    1  0  DCL TITL(11) CHAR(4) STATIC INIT ('1976','1981','1986','1991',
                                                          '1996','2001','2006','2011',
                                                          '2016','2021','2026');
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  STMT LEV NT

     8   1  0  DCL  DASH(127) CHAR(1) STATIC;

     9   1  0          FPERCENTM (1)=0.00003;        FPERCENTF (1)=0.00000;
    11   1  0          FPERCENTM (2)=0.01482;        FPERCENTF (2)=0.03012;
    13   1  0          FPERCENTM (3)=0.09372;        FPERCENTF (3)=0.13037;
    15   1  0          FPERCENTM (4)=0.13307;        FPERCENTF (4)=0.14055;
    17   1  0          FPERCENTM (5)=0.12353;        FPERCENTF (5)=0.11233;
    19   1  0          FPERCENTM (6)=0.10668;        FPERCENTF (5)=0.05933;
    21   1  0          FPERCENTM (7)=0.04716;        FPERCENTF (7)=0.02995;
    23   1  0          FPERCENTM (8)=0.03593;        FPERCENTF (8)=0.00864;
    25   1  0          FPERCENTM (9)=0.01344;        FPERCENTF (9)=0.01064;
    27   1  0          FPERCENTM(10)=0.00916;        FPERCENTF(10)=0.00564;
    29   1  0          FPERCENTM(11)=0.00611;        FPERCENTF(11)=0.00188;
    31   1  0          FPERCENTM(12)=0.00487;        FPERCENTF(12)=0.00564;
    33   1  0          FPERCENTM(13)=0.00075;        FPERCENTF(13)=0.00042;
    35   1  0          FPERCENTM(14)=0.00006;        FPERCENTF(14)=0.00006;

    37   1  0          PPERCENTM (1)=0.00000;        PPERCENTF (1)=0.00003;
    39   1  0          PPERCENTM (2)=0.00000;        PPERCENTF (2)=0.00000;
    41   1  0          PPERCENTM (3)=0.00000;        PPERCENTF (3)=0.00000;
    43   1  0          PPERCENTM (4)=0.00112;        PPERCENTF (4)=0.00403;
    45   1  0          PPERCENTM (5)=0.00618;        PPERCENTF (5)=0.00634;
    47   1  0          PPERCENTM (6)=0.00618;        PPERCENTF (6)=0.00979;
    49   1  0          PPERCENTM (7)=0.00505;        PPERCENTF (7)=0.00806;
    51   1  0          PPERCENTM (8)=0.00281;        PPERCENTF (8)=0.00691;
    53   1  0          PPERCENTM (9)=0.01222;        PPERCENTF (9)=0.01440;
    55   1  0          PPERCENTM(10)=0.01161;        PPERCENTF(10)=0.01879;
    57   1  0          PPERCENTM(11)=0.00489;        PPERCENTF(11)=0.01691;
    59   1  0          PPERCENTM(12)=0.01038;        PPERCENTF(12)=0.01816;
    61   1  0          PPERCENTM(13)=0.00340;        PPERCENTF(13)=0.00626;
    63   1  0          PPERCENTM(14)=0.00003;        PPERCENTF(14)=0.00014;

    65   1  0          FGTOTM(*)=0;          PGTOTM(*)=0;          TGTOTM(*)=0;
    68   1  0          FGTOTF(*)=0;          PGTOTF(*)=0;          TGTOTF(*)=0;
    71   1  0          FGTOTT(*)=0;          PGTOTT(*)=0;          TGTOTT(*)=0;

    74   1  0          DASH(*)='_';

    75   1  0          OPEN FILE (INFIL) INPUT;
    76   1  0          ON ENDFILE (INFIL) BEGIN;
    77   2  0             TITLE = 'SIMCOE COUNTY                                     ';
    78   2  0             GOTO EOJ;
    79   2  0          END;

    80   1  0    READ1:
                       READ FILE (INFIL) INTO (IN3);
    81   1  0          J = 0;
    82   1  0    READ2:
                       READ FILE (INFIL) INTO (IN1);
    83   1  0          READ FILE (INFIL) INTO (IN2);
    84   1  0          J = J + 1;
    85   1  0          FENROLM(*)=0;         PENROLM(*)=0;         TENROLM(*)=0;
    88   1  0          FENROLF(*)=0;         PENROLF(*)=0;         TENROLF(*)=0;
    91   1  0          FENROLT(*)=0;         PENROLT(*)=0;         TENROLT(*)=0;

    94   1  0          UNDER18M=0;           OVER28M=0;            ALLM=0;
    97   1  0          UNDER18F=0;           OVER28F=0;            ALLF=0;

   100   1  0          DO I = 1 TO 18;
   101   1  1             UNDER18M = UNDER18M + POPM(I);
   102   1  1             UNDER18F = UNDER18F + POPF(I);
   103   1  1          END;
   104   1  0          DO I = 30 TO 71;
   105   1  1             OVER28M = OVER28M + POPM(I);
   106   1  1             OVER28F = OVER28F + POPF(I);
   107   1  1          END;
   108   1  0          DO I = 1 TO 71;
   109   1  1             ALLM = ALLM + POPM(I);
   110   1  1             ALLF = ALLF + POPF(I);
   111   1  1          END;

   112   1  0          FENROLM(1) = UNDER18M * FPERCENTM(1);
   113   1  0          FENROLF(1) = UNDER18F * FPERCENTF(1);
   114   1  0          PENROLM(1) = UNDER18M * PPERCENTM(1);
   115   1  0          PENROLF(1) = UNDER18F * PPERCENTF(1);

   116   1  0          DO I = 2 TO 12;
   117   1  1             FENROLM(I)=POPM(I+17) * FPERCENTM(I);
   118   1  1             FENROLF(I)=POPF(I+17) * FPERCENTF(I);
   119   1  1             PENROLM(I)=POPM(I+17) * PPERCENTM(I);
   120   1  1             PENROLF(I)=POPF(I+17) * PPERCENTF(I);
   121   1  1          END;

   122   1  0          FENROLM(13) = OVER28M * FPERCENTM(13);
   123   1  0          FENROLF(13) = OVER28F * FPERCENTF(13);
   124   1  0          PENROLM(13) = OVER28M * PPERCENTM(13);
   125   1  0          PENROLF(13) = OVER28F * PPERCENTF(13);

   126   1  0          FENROLM(14) = ALLM * FPERCENTM(14);
   127   1  0          FENROLF(14) = ALLF * FPERCENTF(14);
   128   1  0          PENROLM(14) = ALLM * PPERCENTM(14);
   129   1  0          PENROLF(14) = ALLF * PPERCENTF(14);

   130   1  0          DO I = 1 TO 14;
   131   1  1             FENROLM(15) = FENROLM(15) + FENROLM(I);
   132   1  1             FENROLF(15) = FENROLF(15) + FENROLF(I);
   133   1  1             PENROLM(15) = PENROLM(15) + PENROLM(I);
   134   1  1             PENROLF(15) = PENROLF(15) + PENROLF(I);
   135   1  1          END;

   136   1  0          DO I = 1 TO 15;
   137   1  1             FENROLT(I) = FENROLM(I) + FENROLF(I);
   138   1  1             PENROLT(I) = PENROLM(I) + PENROLF(I);
   139   1  1             TENROLM(I) = FENROLM(I) + PENROLM(I);
   140   1  1             TENROLF(I) = FENROLF(I) + PENROLF(I);
   141   1  1             TENROLT(I) = FENROLT(I) + PENROLT(I);
   142   1  1          END;

   143   1  0          IF J=1 THEN CALL HEADING;
```

```
 STMT LEV NT

  144   1  0            IF J=5 THEN CALL HEADING;
  145   1  0            IF J=9 THEN CALL HEADING;

  146   1  0            PUT SKIP(3) EDIT (TITL(J),'FULL-TIME','M',(PENROLM(K) DO K
                           =1 TO 15)) (A(4),X(2),A(9),X(3),A(1),X(3),(15)F(7));
  147   1  0            PUT SKIP(1) EDIT ('F',(PENROLF(K) DO K=1 TO 15))
                           (X(18),A(1),X(3),(15)F(7));
  148   1  0            PUT SKIP(1) EDIT ('T',(PENROLT(K) DO K=1 TO 15))
                           (X(18),A(1),X(3),(15)F(7));

  149   1  0            PUT SKIP(2) EDIT ('PART-TIME','M',(PENPOLM(K) DO K
                           =1 TO 15)) (X(6),A(9),X(3),A(1),X(3),(15)F(7));
  150   1  0            PUT SKIP(1) EDIT ('F',(PENPOLF(K) DO K=1 TO 15))
                           (X(18),A(1),X(3),(15)F(7));
  151   1  0            PUT SKIP(1) EDIT ('T',(PENROLT(K) DO K=1 TO 15))
                           (X(18),A(1),X(3),(15)F(7));

  152   1  0            PUT SKIP(2) EDIT ('TOTAL','M',(TENROLM(K) DO K=1 TO 15))
                           (X(6),A(5),X(7),A(1),X(3),(15)F(7));
  153   1  0            PUT SKIP(1) EDIT ('F',(TENROLF(K) DO K=1 TO 15))
                           (X(18),A(1),X(3),(15)F(7));
  154   1  0            PUT SKIP(1) EDIT ('T',(TENROLT(K) DO K=1 TO 15))
                           (X(18),A(1),X(3),(15)F(7));

  155   1  0            DO I = 1 TO 15;
  156   1  1               FGTOTM(I,J) = FGTOTM(I,J) + FENROLM(I);
  157   1  1               FGTOTF(I,J) = FGTOTF(I,J) + FENPOLF(I);
  158   1  1               FGTOTT(I,J) = FGTOTT(I,J) + FENROLT(I);
  159   1  1               PGTOTM(I,J) = PGTOTM(I,J) + PENROLM(I);
  160   1  1               PGTOTF(I,J) = PGTOTF(I,J) + PENROLF(I);
  161   1  1               PGTOTT(I,J) = PGTOTT(I,J) + PENROLT(I);
  162   1  1               TGTOTM(I,J) = TGTOTM(I,J) + TENROLM(I);
  163   1  1               TGTOTF(I,J) = TGTOTF(I,J) + TENROLF(I);
  164   1  1               TGTOTT(I,J) = TGTOTT(I,J) + TENROLT(I);
  165   1  1            END;

  166   1  0            IF J=11 THEN GOTO READ1;
  167   1  0                   ELSE GOTO READ2;

  168   1  0   EOJ:
                        DO J = 1 TO 11;

  169   1  1               IF J=1 THEN CALL HEADING;
  170   1  1               IF J=5 THEN CALL HEADING;
  171   1  1               IF J=9 THEN CALL HEADING;

  172   1  1            PUT SKIP(3) EDIT (TITL(J),'FULL-TIME','M',(FGTOTM(K,J) DO K
                           =1 TO 15)) (A(4),X(2),A(9),X(3),A(1),X(3),(15)F(7));
  173   1  1            PUT SKIP(1) EDIT ('F',(FGTOTF(K,J) DO K=1 TO 15))
                           (X(18),A(1),X(3),(15)F(7));
  174   1  1            PUT SKIP(1) EDIT ('T',(FGTOTT(K,J) DO K=1 TO 15))
                           (X(18),A(1),X(3),(15)F(7));

  175   1  1            PUT SKIP(2) EDIT ('PART-TIME','M',(PGTOTM(K,J) DO K

                           =1 TO 15)) (X(6),A(9),X(3),A(1),X(3),(15)F(7));
  176   1  1            PUT SKIP(1) EDIT ('F',(PGTOTF(K,J) DO K=1 TO 15))
                           (X(19),A(1),X(3),(15)F(7));
  177   1  1            PUT SKIP(1) EDIT ('T',(PGTOTT(K,J) DO K=1 TO 15))
                           (X(18),A(1),X(3),(15)F(7));

  178   1  1            PUT SKIP(2) EDIT ('TOTAL','M',(TGTOTM(K,J) DO K=1 TO 15))
                           (X(6),A(5),X(7),A(1),X(3),(15)F(7));
  179   1  1            PUT SKIP(1) EDIT ('F',(TGTOTF(K,J) DO K=1 TO 15))
                           (X(18),A(1),X(3),(15)F(7));
  180   1  1            PUT SKIP(1) EDIT ('T',(TGTOTT(K,J) DO K=1 TO 15))
                           (X(18),A(1),X(3),(15)F(7));
  181   1  1            END;
  182   1  0            GOTO DONE;

  183   1  0   HEADING:
                        PROCEDURE;
  184   2  0            PUT PAGE EDIT ('PROJECTED ENROLMENT IN ONTARIO UNIVERSITIES FRO
               M',TITLE) (X(20),A(48),X(1),A(50));
  185   2  0            PUT SKIP(2) EDIT ((DASH(I) DO I=1 TO 127)) ((127)A(1));
  186   2  0            PUT SKIP(1) EDIT ('UNDER','OVER') (X(24),A(5),X(80),A(4));
  187   2  0            PUT SKIP(1) EDIT ('YEAR                 SEX        18        18        19
                   20        21        22        23        24        25        26        27        28        28
                 NR  TOTAL')    (A(127));
  188   2  0            PUT SKIP(1) EDIT ((DASH(I) DO I=1 TO 127)) ((127)A(1));
  189   2  0            END HEADING;

  190   1  0   DONE:
                        END MARG;
```

CROSS-REFERENCE TABLE (FULL)

DCL NO.	IDENTIFIER	REFERENCES
6	ALLF	99,110,110,127,129
6	ALLM	96,109,109,126,128
8	DASH	74,185,188
190	DONE	182
168	EOJ	78
6	FENROLF	88,113,118,123,127,132,132,132,137,140,147,157
6	FENROLM	85,112,117,122,126,131,131,131,137,139,146,156
6	FENROLT	91,137,141,148,158
6	FGTOTF	68,157,157,173
6	FGTOTM	65,156,156,172
6	FGTOTT	71,158,158,174
5	FILL	
6	FPERCENTF	10,12,14,16,18,20,22,24,26,28,30,32,34,36,113,118,123,127
6	FPERCENTM	9,11,13,15,17,19,21,23,25,27,29,31,33,35,112,117,122,126
183	HEADING	143,144,145,169,170,171
********	I	100,100,101,102,104,104,105,106,108,108,109,110,116,116,117,117,117,118,118, 118,119,119,119,120,120,120,130,130,131,132,133,134,136,136,137,137,137,138, 138,138,139,139,139,140,140,140,141,141,141,155,155,156,156,156,157,157,157, 158,158,158,159,159,159,160,160,160,161,161,161,162,162,162,163,163,163,164, 164,164,185,185,185,188,188,188
2	INFIL	75,76,80,82,83
3	IN1	82
4	IN2	83
5	IN3	80
********	J	81,84,84,143,144,145,146,156,156,157,157,158,158,159,159,160,160,161,161, 162,162,163,163,164,164,166,168,168,169,170,171,172,172,173,174,175,176,177, 178,179,180
********	K	146,146,146,147,147,147,148,148,148,149,149,149,150,150,150,151,151,151,152, 152,152,153,153,153,154,154,154,172,172,172,173,173,173,174,174,174,175,175, 175,176,176,176,177,177,177,178,178,178,179,179,179,180,180,180
1	MARG	
6	OVER28F	98,106,106,123,125
6	OVER28M	95,105,105,122,124
6	PENROLF	89,115,120,125,129,134,134,134,138,140,150,160
6	PENROLM	86,114,119,124,128,133,133,133,138,139,149,159
6	PENROLT	92,138,141,151,161
6	PGTOTF	69,160,160,176
6	PGTOTM	66,159,159,175
6	PGTOTT	72,161,161,177
4	POPF	102,106,110,118,120
3	POPM	101,105,109,117,119
6	PPERCENTF	38,40,42,44,46,48,50,52,54,56,58,60,62,64,115,120,125,129
6	PPERCENTM	37,39,41,43,45,47,49,51,53,55,57,59,61,63,114,119,124,128
80	READ1	166
82	READ2	167
********	SYSPRINT	146,147,148,149,150,151,152,153,154,172,173,174,175,176,177,178,179,180,184, 185,186,187,188
6	TENROLF	90,140,153,163
6	TENROLM	87,139,152,162
6	TENROLT	93,141,154,164
6	TGTOTF	70,163,163,179
6	TGTOTM	67,162,162,178
6	TGTOTT	73,164,164,180
7	TITL	146,172
5	TITLE	77,184
6	UNDER18F	97,102,102,113,115
6	UNDER18M	94,101,101,112,114

AGGREGATE LENGTH TABLE

DCL NO.	IDENTIFIER	LVL	DIMS	OFFSET	ELEMENT LENGTH.	TOTAL LENGTH.
8	DASH		1		1	127
6	FENROLF		1		6	90
6	FENROLM		1		6	90
6	FENROLT		1		6	90
6	FGTOTF		2		6	990
6	FGTOTM		2		6	990
6	FGTOTT		2		6	990
6	FPERCENTF		1		4	56
6	FPERCENTM		1		4	56
3	IN1	1			284	284
	POPM	2	1		4	284
4	IN2	1			284	284
	POPF	2	1		4	284
5	IN3	1			284	284
	TITLE	2			50	
	FILL	2		50	234	
6	PENROLF		1		6	90
6	PENROLM		1		6	90
6	PENROLT		1		6	90
6	PGTOTF		2		6	990
6	PGTOTM		2		6	990
6	PGTOTT		2		6	990
6	PPERCENTF		1		4	56
6	PPERCENTM		1		4	56
6	TENROLF		1		6	90
6	TENROLM		1		6	90
6	TENROLT		1		6	90
6	TGTOTF		2		6	990
6	TGTOTM		2		6	990
6	TGTOTT		2		6	990
7	TITL		1		4	44

SUM OF CONSTANT LENGTHS 10967

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PL/I OPTIMIZING COMPILER        MARG: PROC OPTIONS (MAIN);

COMPILER DIAGNOSTIC MESSAGES

ERROR ID L   STMT    MESSAGE DESCRIPTION


COMPILER INFORMATORY MESSAGES


IEL0533I I            NO 'DECLARE' STATEMENT(S) FOR 'SYSPRINT','J','I','K'.


END OF COMPILER DIAGNOSTIC MESSAGES

COMPILE TIME    0.33 MINS        SPILL FILE:    42 RECORDS, SIZE 4051
```

APPENDIX IV

AGE AND SEX DISTRIBUTION

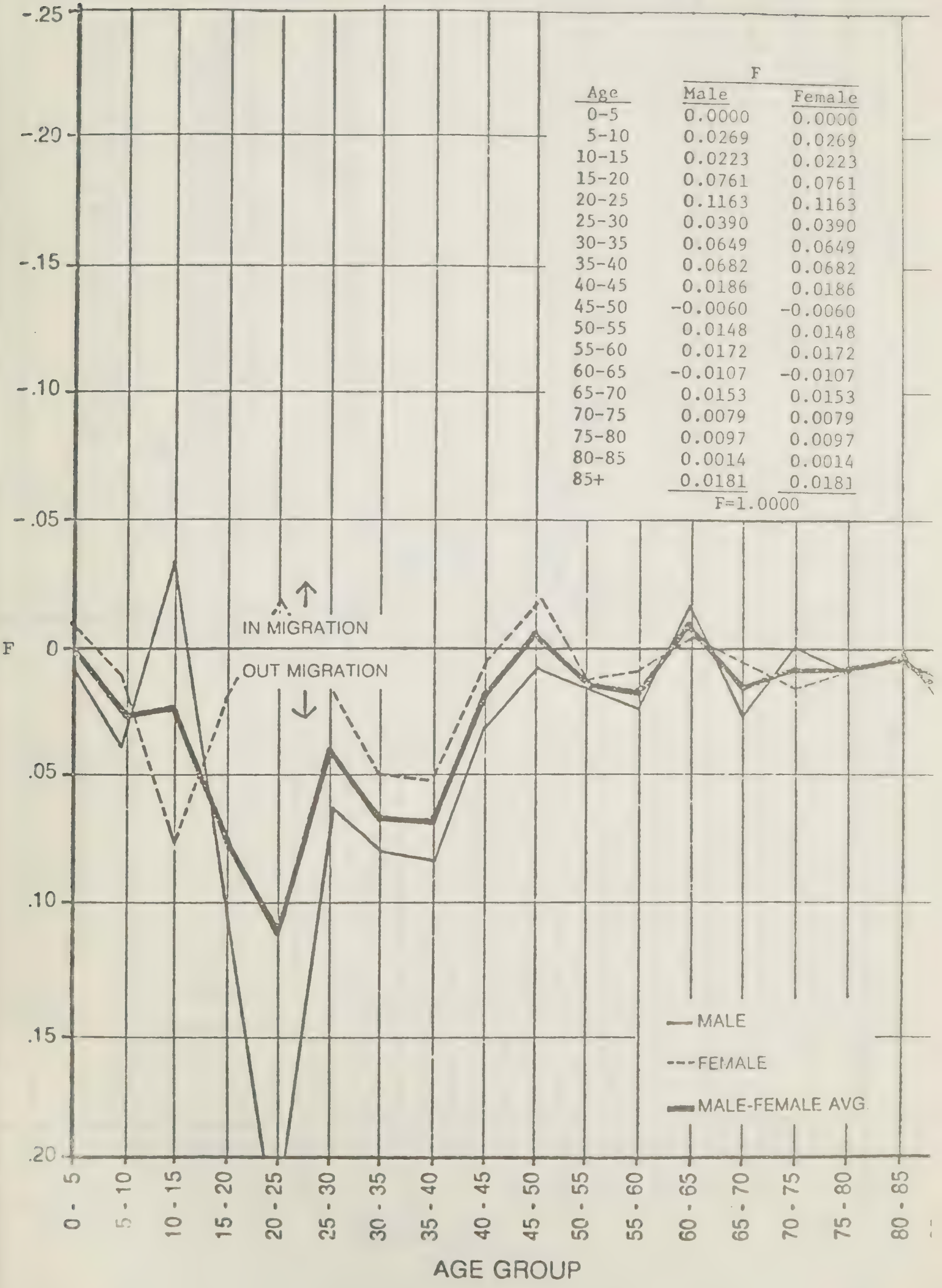
OF NET MIGRATION

BY

STAGE OF DEVELOPMENT

(from reference 3)

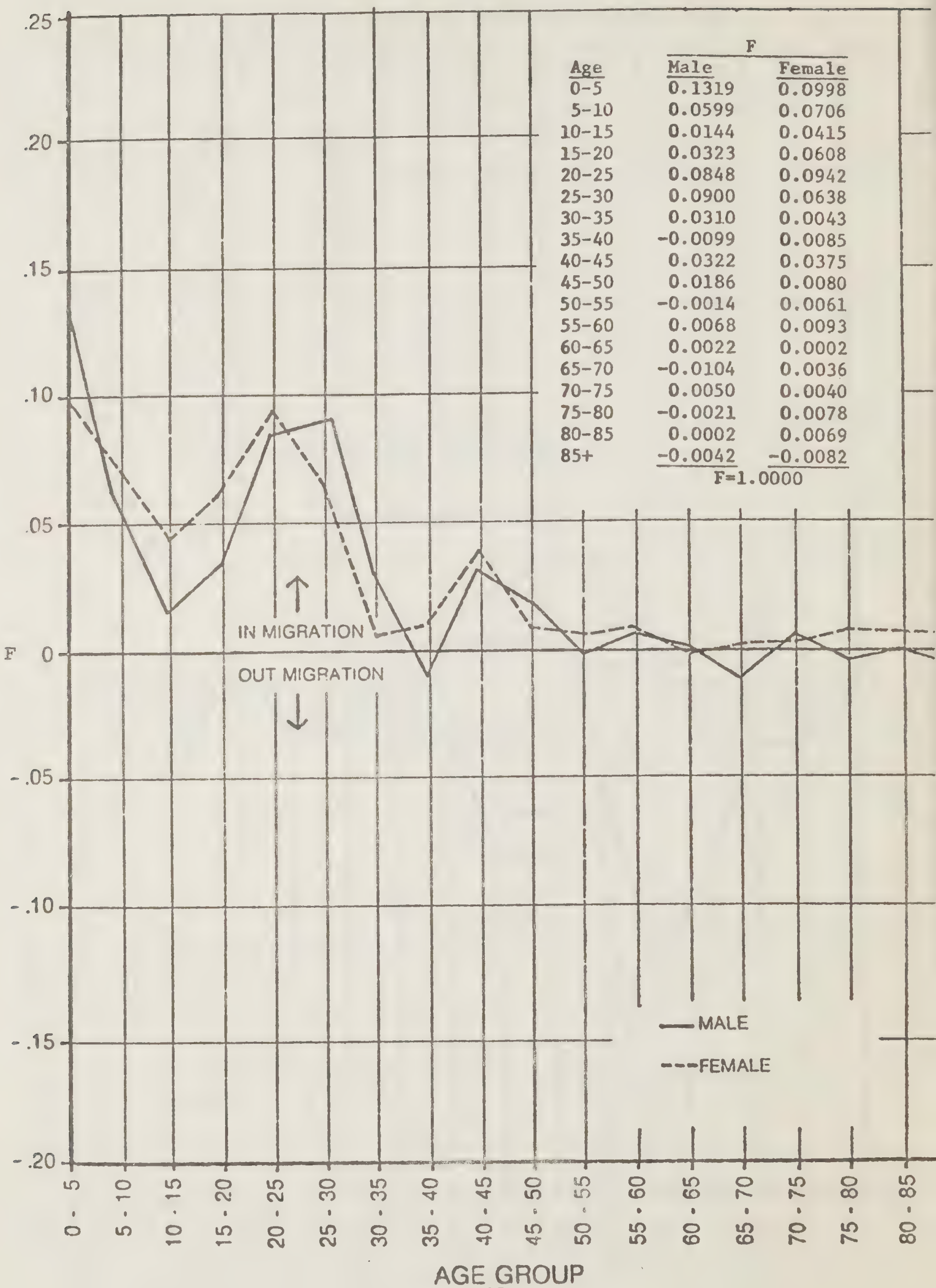
NET MIGRATION BY AGE AND SEX FOR STAGE A



Age	F Male	F Female
0-5	0.0000	0.0000
5-10	0.0269	0.0269
10-15	0.0223	0.0223
15-20	0.0761	0.0761
20-25	0.1163	0.1163
25-30	0.0390	0.0390
30-35	0.0649	0.0649
35-40	0.0682	0.0682
40-45	0.0186	0.0186
45-50	-0.0060	-0.0060
50-55	0.0148	0.0148
55-60	0.0172	0.0172
60-65	-0.0107	-0.0107
65-70	0.0153	0.0153
70-75	0.0079	0.0079
75-80	0.0097	0.0097
80-85	0.0014	0.0014
85+	0.0181	0.0181

F=1.0000

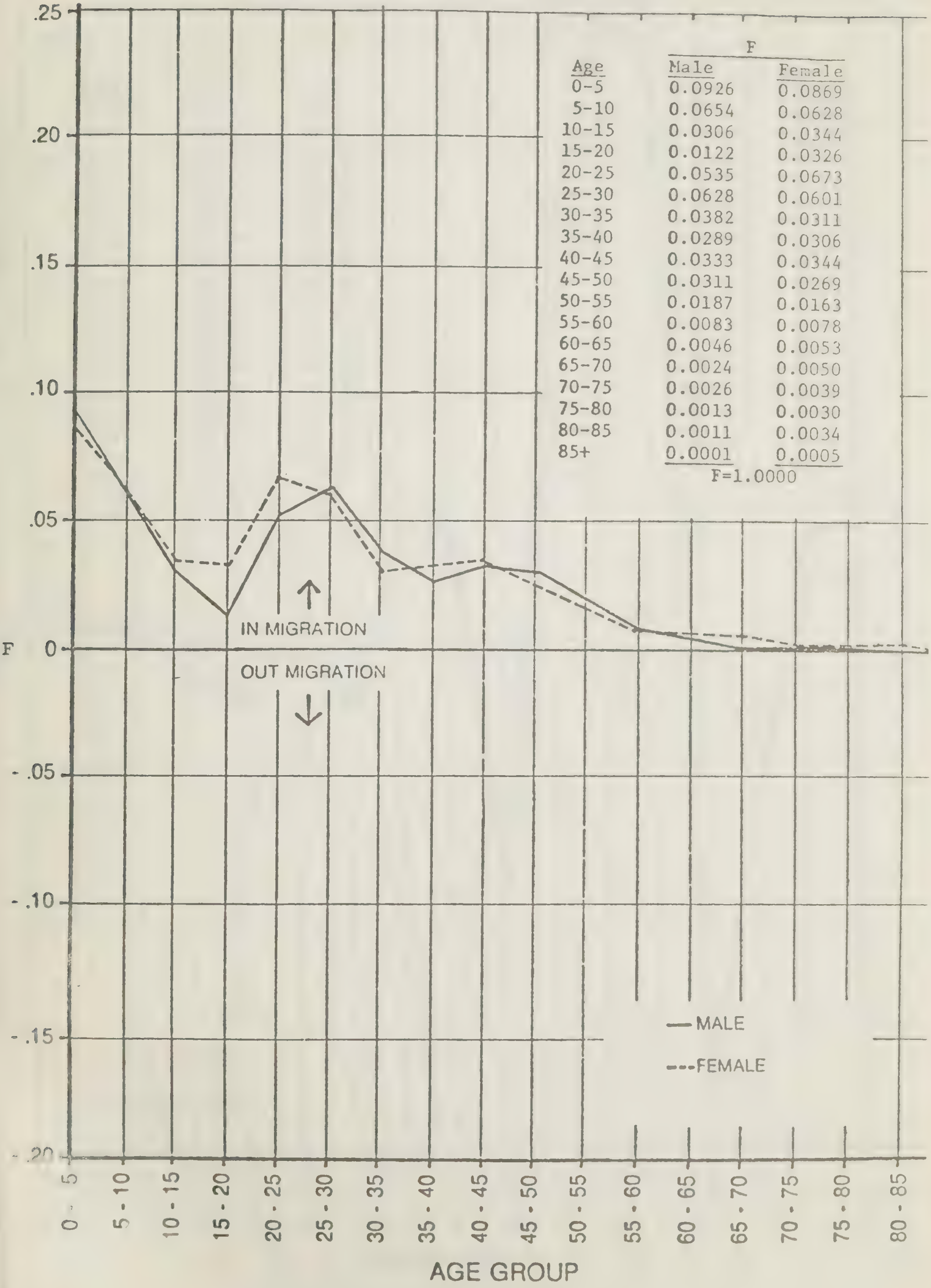
NET MIGRATION BY AGE AND SEX FOR STAGE B



Age	F Male	F Female
0-5	0.1319	0.0998
5-10	0.0599	0.0706
10-15	0.0144	0.0415
15-20	0.0323	0.0608
20-25	0.0848	0.0942
25-30	0.0900	0.0638
30-35	0.0310	0.0043
35-40	-0.0099	0.0085
40-45	0.0322	0.0375
45-50	0.0186	0.0080
50-55	-0.0014	0.0061
55-60	0.0068	0.0093
60-65	0.0022	0.0002
65-70	-0.0104	0.0036
70-75	0.0050	0.0040
75-80	-0.0021	0.0078
80-85	0.0002	0.0069
85+	-0.0042	-0.0082

F=1.0000

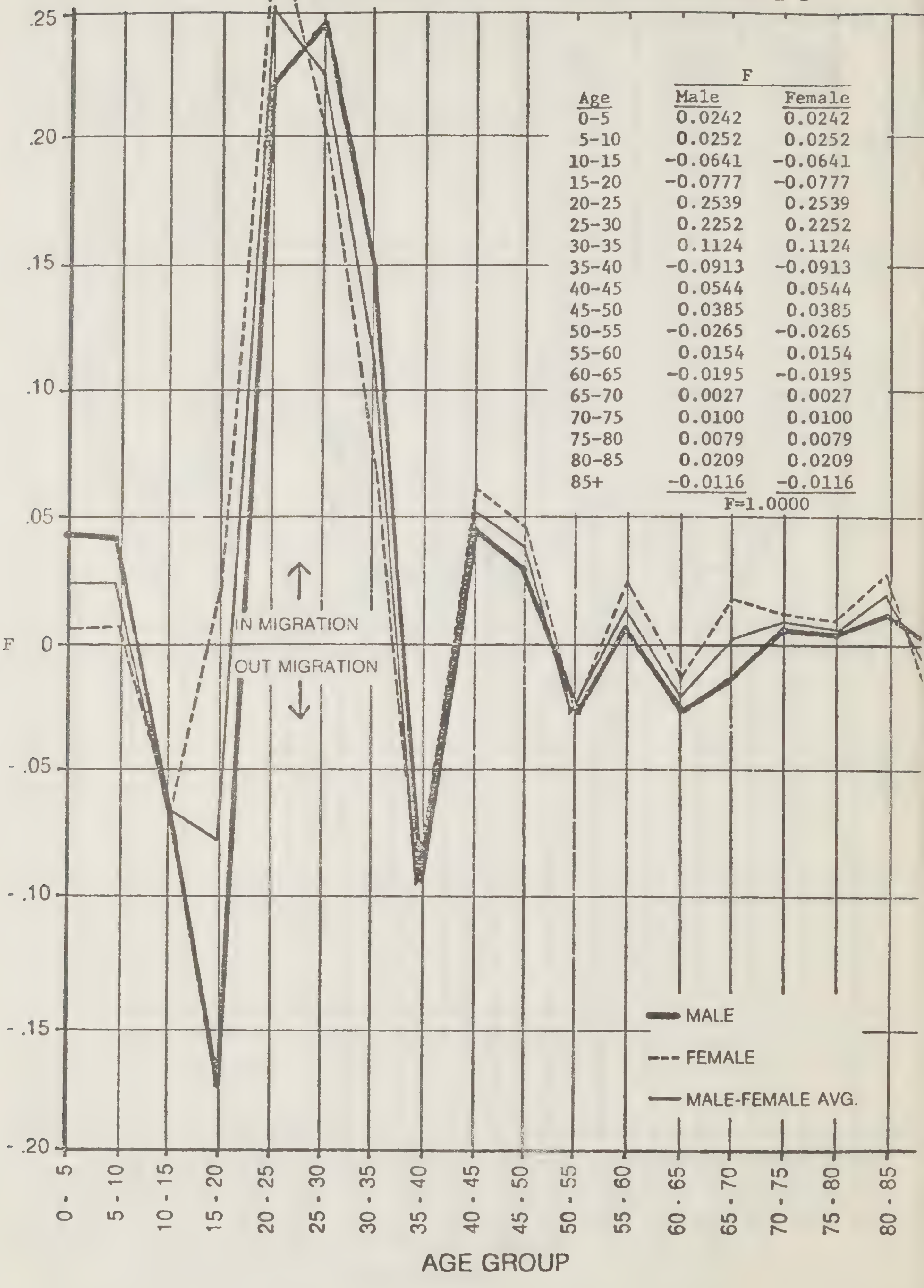
NET MIGRATION BY AGE AND SEX FOR STAGE C



Age	F Male	F Female
0-5	0.0926	0.0869
5-10	0.0654	0.0628
10-15	0.0306	0.0344
15-20	0.0122	0.0326
20-25	0.0535	0.0673
25-30	0.0628	0.0601
30-35	0.0382	0.0311
35-40	0.0289	0.0306
40-45	0.0333	0.0344
45-50	0.0311	0.0269
50-55	0.0187	0.0163
55-60	0.0083	0.0078
60-65	0.0046	0.0053
65-70	0.0024	0.0050
70-75	0.0026	0.0039
75-80	0.0013	0.0030
80-85	0.0011	0.0034
85+	0.0001	0.0005

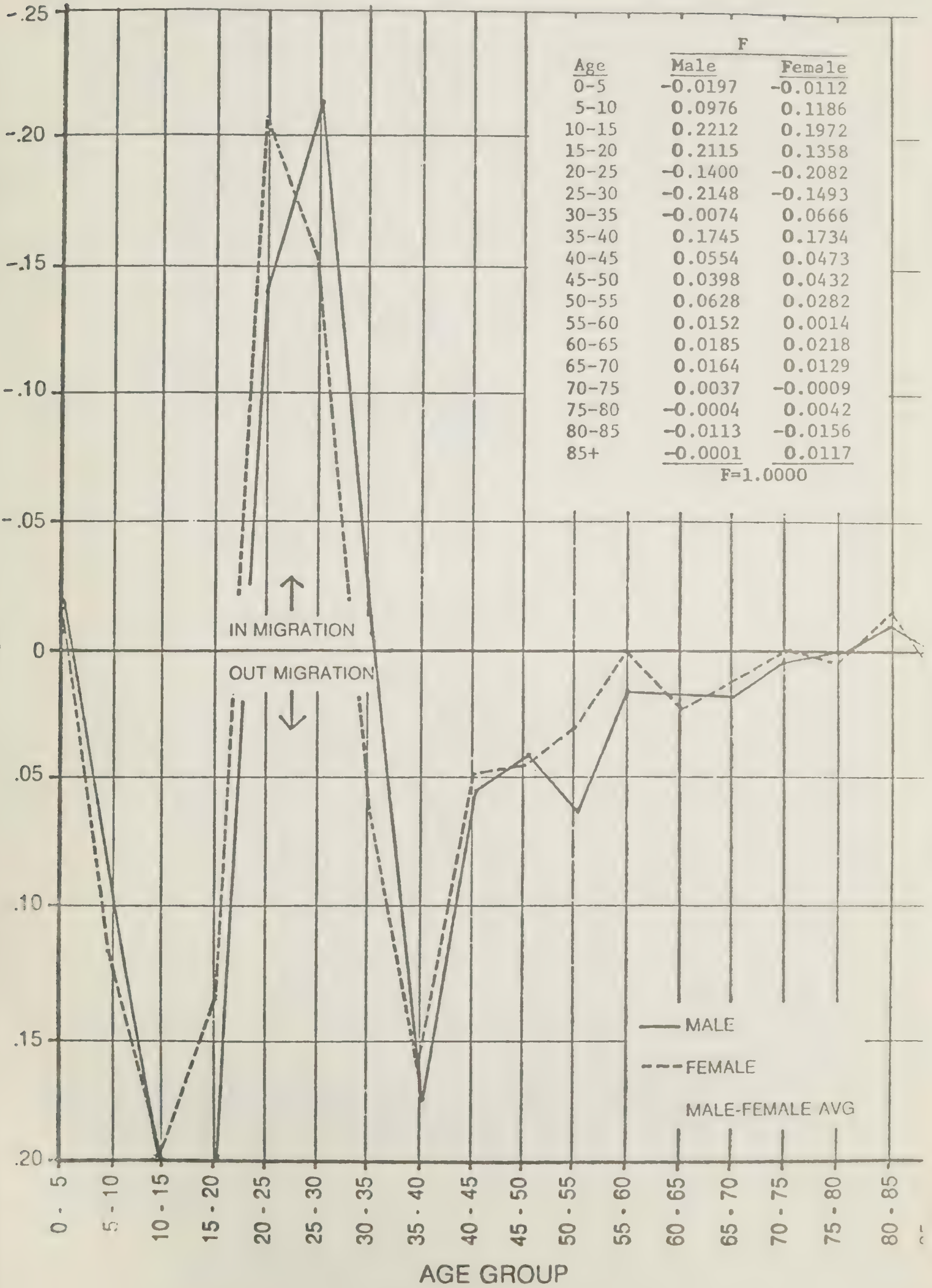
F=1.0000

NET MIGRATION BY AGE AND SEX FOR STAGE D



Age	F Male	F Female
0-5	0.0242	0.0242
5-10	0.0252	0.0252
10-15	-0.0641	-0.0641
15-20	-0.0777	-0.0777
20-25	0.2539	0.2539
25-30	0.2252	0.2252
30-35	0.1124	0.1124
35-40	-0.0913	-0.0913
40-45	0.0544	0.0544
45-50	0.0385	0.0385
50-55	-0.0265	-0.0265
55-60	0.0154	0.0154
60-65	-0.0195	-0.0195
65-70	0.0027	0.0027
70-75	0.0100	0.0100
75-80	0.0079	0.0079
80-85	0.0209	0.0209
85+	-0.0116	-0.0116
	F=1.0000	

NET MIGRATION BY AGE AND SEX FOR STAGE E



	F	
Age	Male	Female
0-5	-0.0197	-0.0112
5-10	0.0976	0.1186
10-15	0.2212	0.1972
15-20	0.2115	0.1358
20-25	-0.1400	-0.2082
25-30	-0.2148	-0.1493
30-35	-0.0074	0.0666
35-40	0.1745	0.1734
40-45	0.0554	0.0473
45-50	0.0398	0.0432
50-55	0.0628	0.0282
55-60	0.0152	0.0014
60-65	0.0185	0.0218
65-70	0.0164	0.0129
70-75	0.0037	-0.0009
75-80	-0.0004	0.0042
80-85	-0.0113	-0.0156
85+	-0.0001	0.0117
	F=1.0000	

APPENDIX V

FLOWS DIRECT FROM

HIGH SCHOOLS

TO

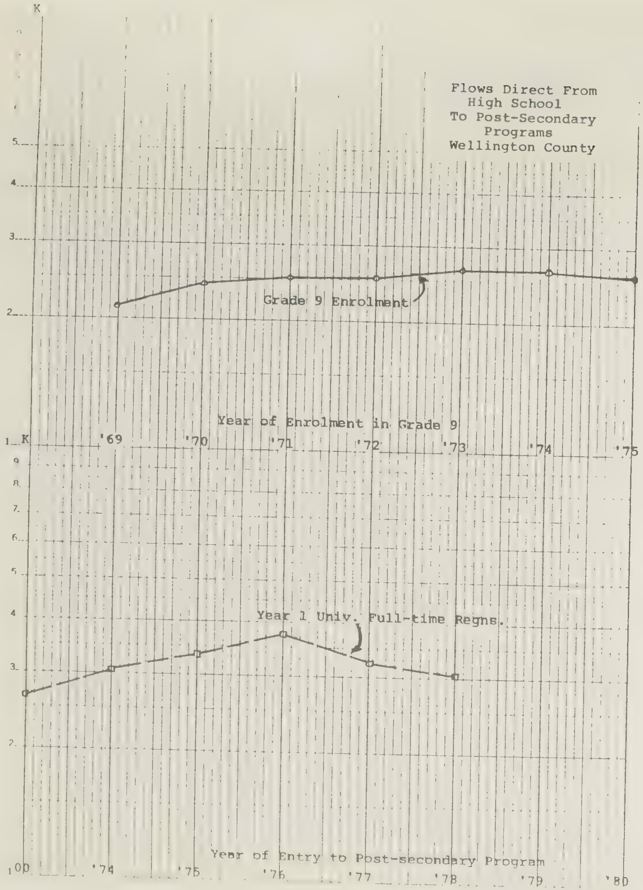
POST-SECONDARY PROGRAMS*

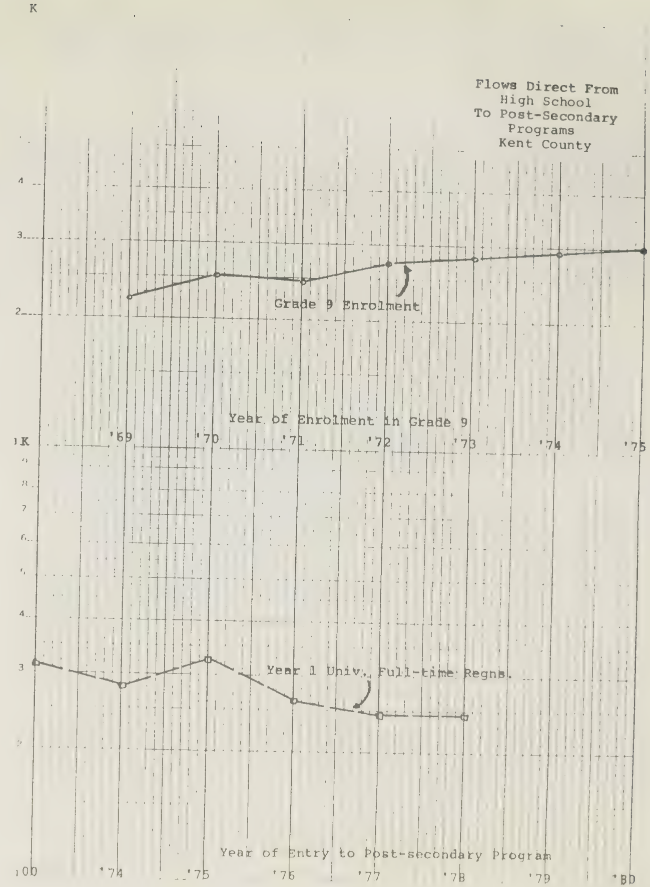
FOR

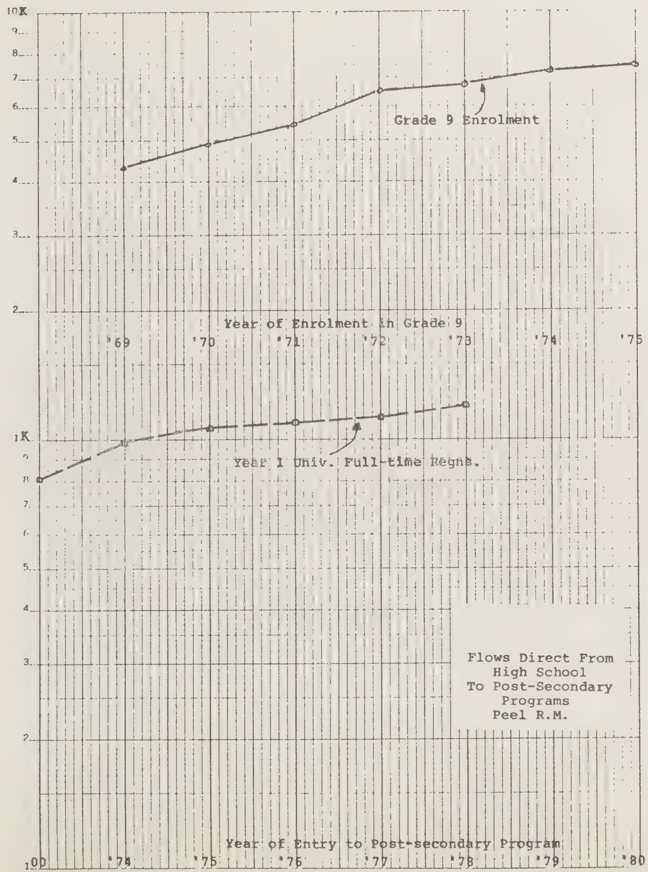
SELECTED COUNTIES

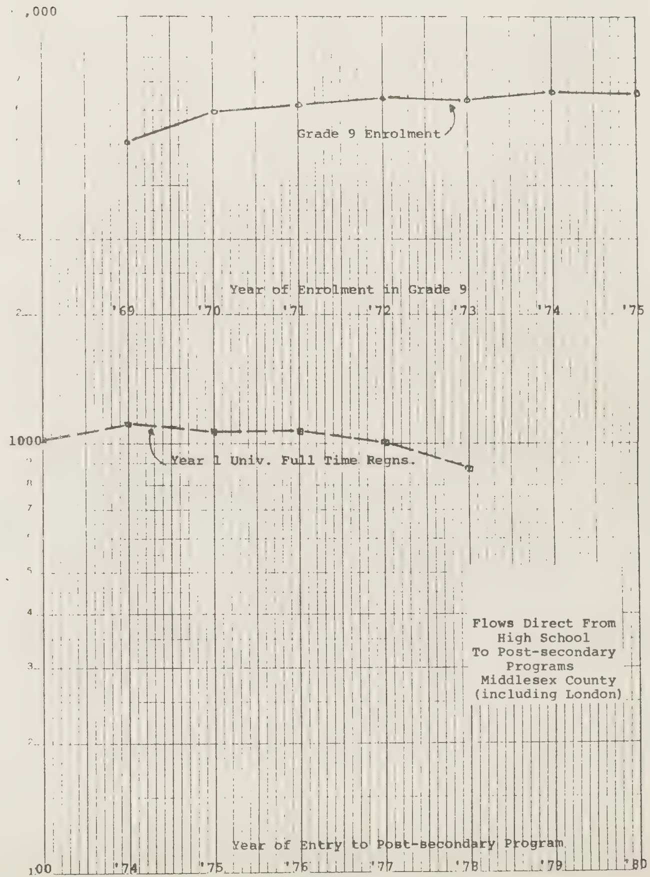
AND YEARS

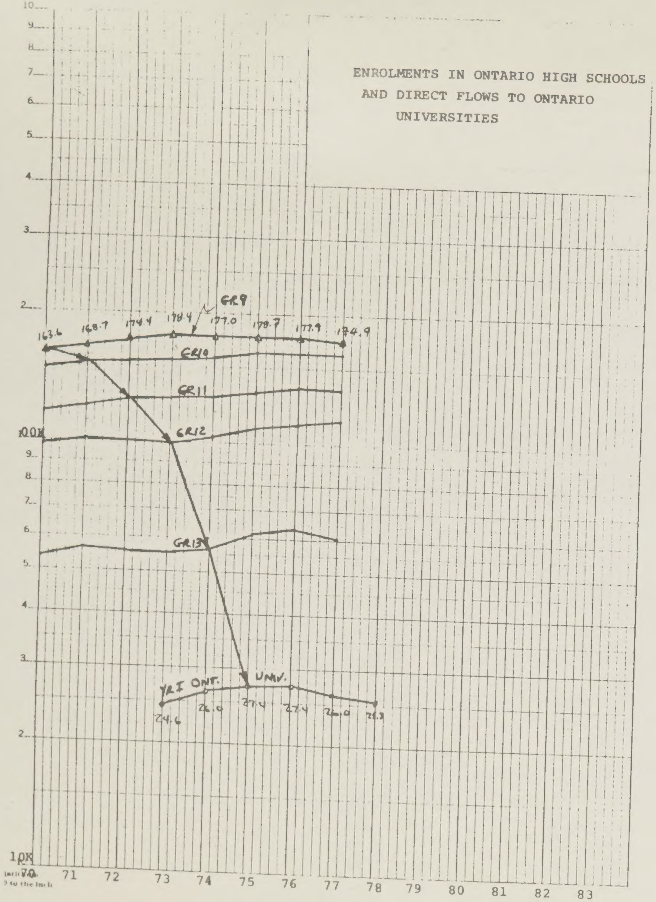
* actually universities - because the CAAT data was not available except in a form requiring more effort than was available. We're sorry.

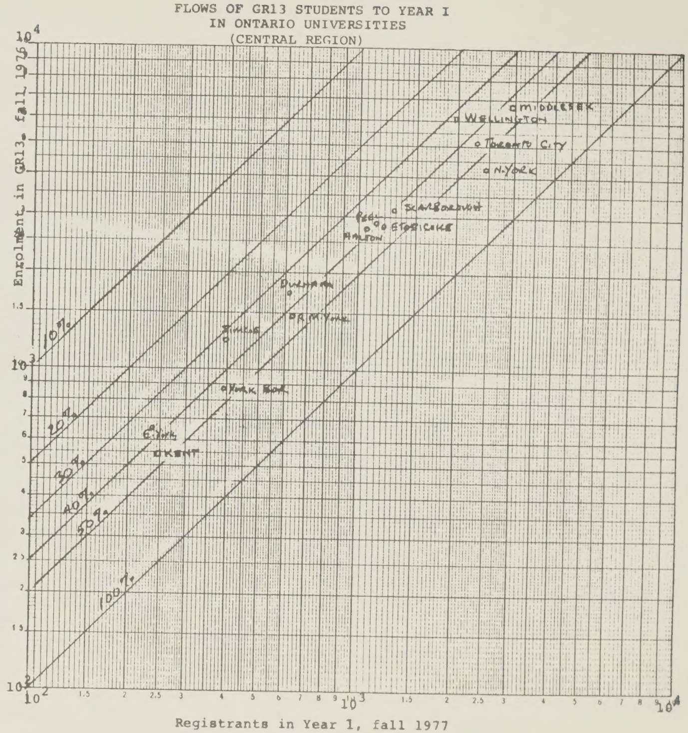

Flows Direct From
High School
To Post-Secondary
Programs
Wellington County
Grade 9 Enrolment
Year of Enrolment in Grade 9
'69 '70 '71 '72 '73 '74 '75
Year 1 Univ. Full-time Regns.
Year of Entry to Post-secondary Program
'74 '75 '76 '77 '78 '79 '80


Flows Direct From
High School
To Post-Secondary
Programs
Kent County
Grade 9 Enrolment
Year of Enrolment in Grade 9
'69 '70 '71 '72 '73 '74 '75
Year 1 Univ. Full-time Regns.
Year of Entry to Post-secondary Program
'74 '75 '76 '77 '78 '79 '80


Flows Direct From
High School
To Post-Secondary
Programs
Peel R.M.
Grade 9 Enrolment
Year 1 Univ. Full-time Regns.
Year of Enrolment in Grade 9
'69 '70 '71 '72 '73 '74 '75
Year of Entry to Post-secondary Program
'74 '75 '76 '77 '78 '79 '80
10K
1K
100


Flows Direct From
High School
To Post-secondary
Programs
Middlesex County
(including London)
Grade 9 Enrolment
Year 1 Univ. Full Time Regns.
Year of Enrolment in Grade 9
'69 '70 '71 '72 '73 '74 '75
Year of Entry to Post-secondary Program
'74 '75 '76 '77 '78 '79 '80
,000
1000
100


ENROLMENTS IN ONTARIO HIGH SCHOOLS
AND DIRECT FLOWS TO ONTARIO
UNIVERSITIES
GR9
GR10
GR11
GR12
GR13
YR I ONT.
UNIV.
163.6
168.7
174.4
178.4
177.0
178.7
177.9
174.9
24.6
26.0
27.4
27.4
26.0
10K
100K
70
71
72
73
74
75
76
77
78
79
80
81
82
83


FLOWS OF GR13 STUDENTS TO YEAR I
IN ONTARIO UNIVERSITIES
(CENTRAL REGION)
Enrolment in GR13, fall 1976
Registrants in Year 1, fall 1977
MIDDLESEX
WELLINGTON
TORONTO CITY
N.YORK
SCARBOROUGH
ETOBICOKE
HALTON
DURHAM
SIMCOE
YORK BOR
E.YORK
KENT
10%
20%
30%
40%
50%
100%